

=> file reg

FILE 'REGISTRY' ENTERED AT 21:12:38 ON 06 MAR 2005  
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=> d his

L1 FILE 'LREGISTRY' ENTERED AT 21:00:56 ON 06 MAR 2005  
STR

L2 FILE 'REGISTRY' ENTERED AT 21:04:27 ON 06 MAR 2005  
L3 SCR 2043  
L4 0 S L1 AND L2  
L5 STR L1  
L6 3 S L4 AND L2  
L7 192 S L4 AND L2 FUL  
L8 SAV L6 THO563/A  
1 S L1 SSS SAM SUB=L6  
56 S L1 SSS FUL SUB=L6  
SAV L8 THO563A/A

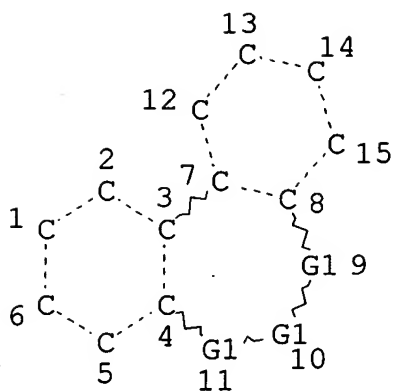
L9 FILE 'CAOLD' ENTERED AT 21:11:59 ON 06 MAR 2005  
0 S L8

L10 FILE 'ZCA' ENTERED AT 21:12:04 ON 06 MAR 2005  
24 S L8

FILE 'REGISTRY' ENTERED AT 21:12:38 ON 06 MAR 2005

=> d l8 que stat

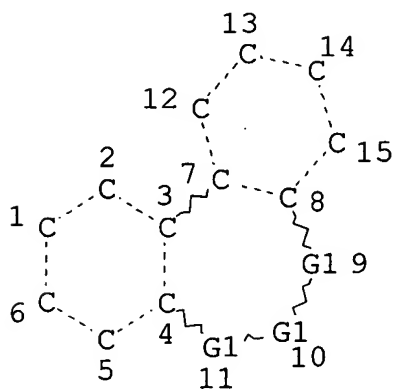
L1 STR



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DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:  
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NUMBER OF NODES IS 15

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STEREO ATTRIBUTES: NONE
L2                SCR 2043
L4                STR
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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
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GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L6 192 SEA FILE=REGISTRY SSS FUL L4 AND L2

L8 56 SEA FILE=REGISTRY SUB=L6 SSS FUL L1

100.0% PROCESSED 192 ITERATIONS

56 ANSWERS

SEARCH TIME: 00.00.01

=> file zca

FILE 'ZCA' ENTERED AT 21:13:17 ON 06 MAR 2005

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=> d 110 1-24 cbib abs hitstr hitrn

L10 ANSWER 1 OF 24 ZCA COPYRIGHT 2005 ACS on STN

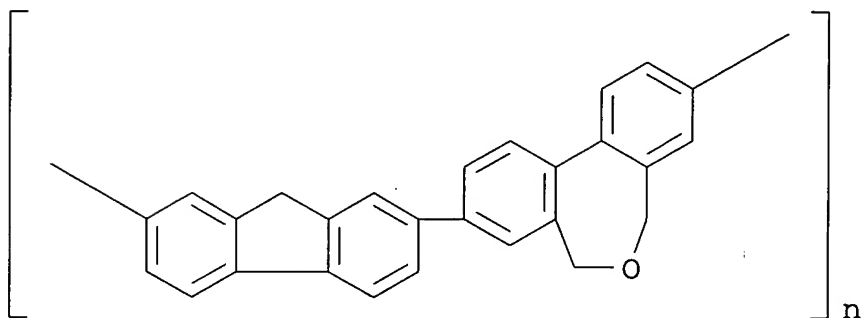
141:181206 Quantum chemical studies of absorption and emission spectroscopic properties for oligomeric fluorenes and its derivatives. Wang, Ji-Fen; Feng, Ji-Kang; Ren, Ai-Min; Liu, Xiao-Dong; Ma, Yu-Guang (State Key Lab Theoretical Computational Chem., Inst. Theoretical Chem., Jilin Univ., Changchun, 130023, Peop. Rep. China). Gaodeng Xuexiao Huaxue Xuebao, 25(4), 676-680 (Chinese) 2004. CODEN: KTHPDM. ISSN: 0251-0790. Publisher: Gaodeng Jiaoyu Chubanshe.

AB We have fully optimized the structures of the oligomers of (PF)<sub>2n</sub> and (PFDBO)<sub>n</sub> (n=1-4) using DFT/B3LYP method and calcd. their PI(.nu.,.alpha.), EAA(.nu.,.alpha.), EHP, EEP. The absorption spectra data were calcd. at ZINDO and TD-DFT levels of theory. We analyzed the rules to the variation of their HOMO-LUMO energy gap with n rising and how the energy gap reflected the spectral properties of the oligomers to deduce the spectral properties of their polymers. We optimized the S<sub>1</sub> excited geometries and studied the emission spectra. Moreover, in the excited geometries all the framework atoms in a mol. are apt to coplanar. Above all, the dramatically twisted segment of seven-membered-ring in PFDBO(dihedral angle between its two Ph ring is 42.5.degree..+-0.5.degree.), because of CH<sub>2</sub>OCH<sub>2</sub> caused the conjugated backbone broken. So the energy gap of it is broader, which makes in the max absorption and emission wavelengths of PFDBO shorter than PF's.

IT 693779-71-4

(DFT study on absorption and luminescent property of oligomeric fluorenes and derivs.)

RN 693779-71-4 ZCA  
CN Poly[(5,7-dihydrodibenz[c,e]oxepin-3,9-diyl)-9H-fluorene-2,7-diyl]  
(9CI) (CA INDEX NAME)



IT 693779-71-4  
(DFT study on absorption and luminescent property of oligomeric  
fluorenes and derivs.)

L10 ANSWER 2 OF 24 ZCA COPYRIGHT 2005 ACS on STN

141:7748 Theoretical Studies of the Absorption and Emission Properties  
of the Fluorene-Based Conjugated Polymers. Wang, Ji-Fen; Feng,  
Ji-Kang; Ren, Ai-Min; Liu, Xiao-Dong; Ma, Yu-Guang; Lu, Ping; Zhang,  
Hong-Xing (State Key Laboratory of Theoretical and Computational  
Chemistry, Institute of Theoretical Chemistry, Jilin University,  
Changchun, 130023, Peop. Rep. China). Macromolecules, 37(9),  
3451-3458 (English) 2004. CODEN: MAMOBX. ISSN: 0024-9297.  
Publisher: American Chemical Society.

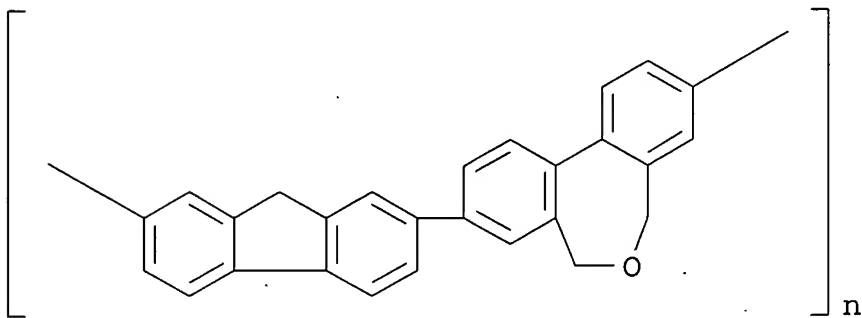
AB The structures, ionization potentials (IPs), electron affinities  
(EAs), and HOMO-LUMO gaps (.DELTA.H-L) of the oligomers are studied  
by the d. functional theory with B3LYP functional. The lowest  
excitation energies (Egs) and the maximal absorption wavelength  
.lambda.abs of oligomers of polyfluorene (PF) and  
poly(2,7-fluorene-alt-co-5,7-dihydrodibenz[c,e]oxepin) (PFDBO) are  
studied employing the time-dependent d. functional theory (TD-DFT)  
and ZINDO. Band gaps and effective conjugation lengths of the  
corresponding polymers were obtained by extrapolating HOMO-LUMO gaps  
and the lowest excitation energies to infinite chain length. The  
IPs, EAs, and .lambda.abs of the polymers were also obtained by  
extrapolating those of the oligomers to the inverse chain length  
equal to zero ( $1/n = 0$ ). For PFDBO, IPs and EAs are higher and the  
band gap is larger than those of PF's from the extrapolation. The  
outcome shows that the dramatically twisted structure of PFDBO in  
the seven-membered ring results in the decreased conjugation in the  
chain. These cause both the maximal absorption and emission  
wavelengths of PFDBO blue shift compared with PF.

IT 693779-71-4

(theor. studies of absorption and emission properties of  
fluorene-based conjugated polymers)

RN 693779-71-4 ZCA

CN Poly[(5,7-dihydrodibenz[c,e]oxepin-3,9-diyl)-9H-fluorene-2,7-diyl]  
(9CI) (CA INDEX NAME)



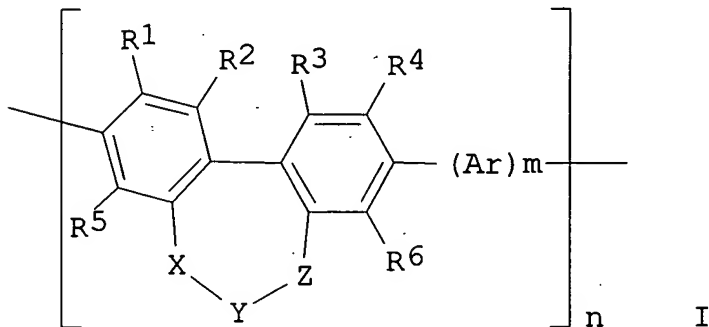
IT 693779-71-4

(theor. studies of absorption and emission properties of  
fluorene-based conjugated polymers)

L10 ANSWER 3 OF 24 ZCA COPYRIGHT 2005 ACS on STN

140:329268 Polymeric fluorescent substance, process for producing the  
same, and organic electroluminescent element. Suzuki, Satoshi  
(Japan). U.S. Pat. Appl. Publ. US 2004067388 A1 20040408, 16 pp.  
(English). CODEN: USXXCO. APPLICATION: US 2003-667563 20030922.  
PRIORITY: JP 2002-277684 20020924.

GI



AB Polymeric fluorescent substances are described which comprise  
.gtoreq.1 type of repeating units are described by the general

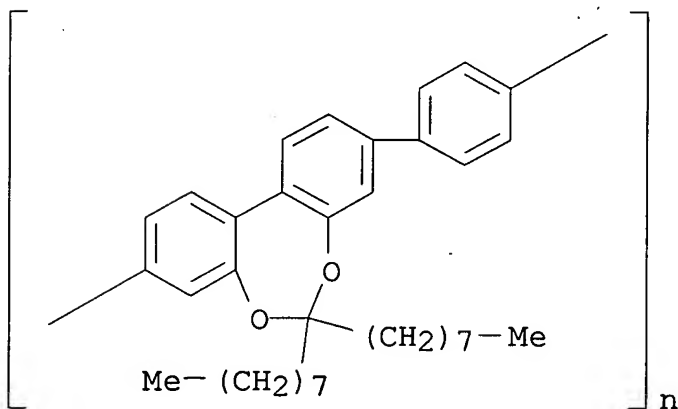
formula I and having a no. av. mol. wt. of 103 to 108 as detd. using polystyrene as a std. (Ar = a C6-60 arylene group or a C4-60 heterocyclic compd. group; X, Y, and Z = .gtoreq.1 of O, S, carbonyl, -C(R)2-, and -NR-; R and R-6 = independently selected H, C1-20 alkyl, C1-20 alkoxy, C1-20 alkylthio, C1-60 alkylsilyl, C1-40 alkylamino, C6-60 aryl, C7-60 arylalkyl, C7-60 arylalkoxy, C8-60 arylalkynyl, an C6-60 arylamino, C4-60 heterocyclic compd., cyano, nitro, and halo groups; m = 0 or 1; and n = value necessary for meeting the requirement of the no. av. mol. wt.). Methods for producing the compds. by polymn. of appropriate monomers are also described, as are electroluminescent devices employing them.

IT 678196-23-1 678196-24-2 678196-25-3  
 678196-26-4 678196-27-5 678196-28-6  
 678196-29-7 678196-30-0 678196-31-1  
 678196-32-2 678196-33-3 678196-34-4  
 678196-35-5 678196-36-6

(polymeric fluorescent substances and their prodn. and org.  
 electroluminescent devices using them)

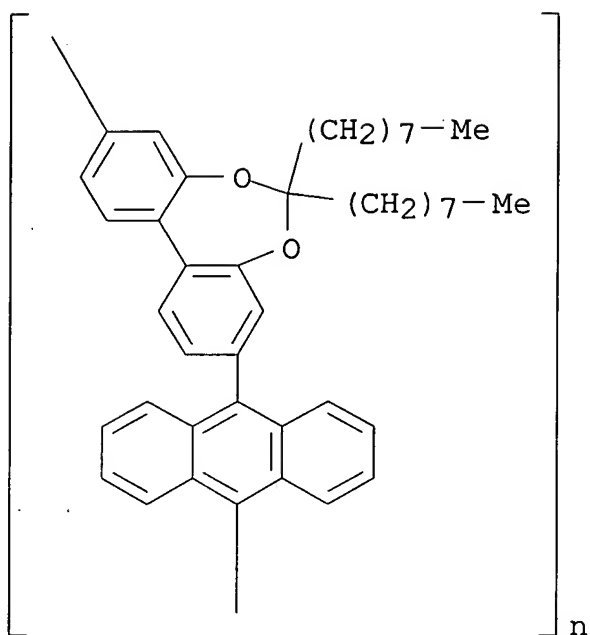
RN 678196-23-1 ZCA

CN Poly[(6,6-dioctyldibenzo[d,f][1,3]dioxepin-3,9-diyl)-1,4-phenylene]  
 (9CI) (CA INDEX NAME)

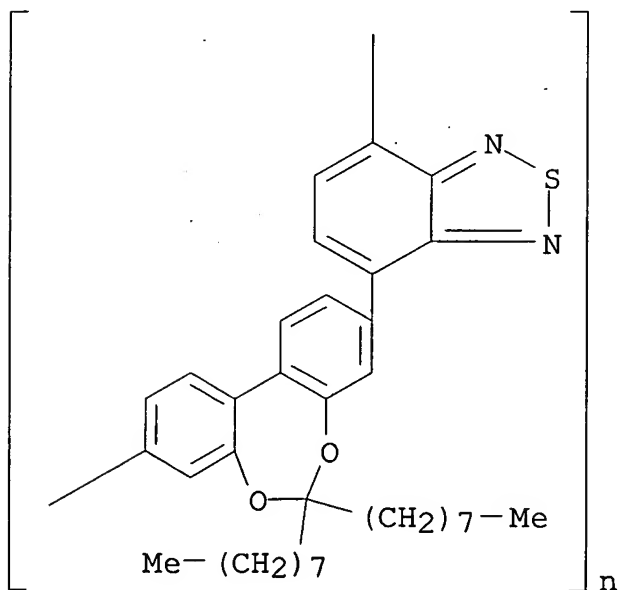


RN 678196-24-2 ZCA

CN Poly[(6,6-dioctyldibenzo[d,f][1,3]dioxepin-3,9-diyl)-9,10-anthracenediyl] (9CI) (CA INDEX NAME)

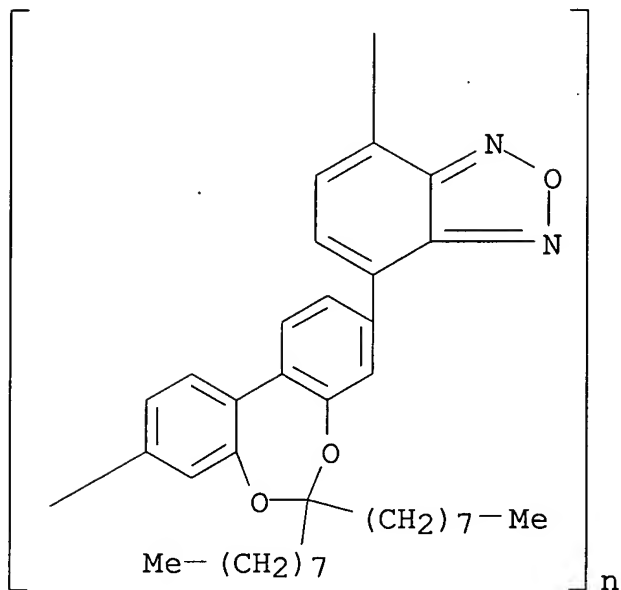


RN 678196-25-3 ZCA  
 CN Poly[2,1,3-benzothiadiazole-4,7-diyl(6,6-dioctyldibenzo[d,f][1,3]dioxepin-3,9-diyl)] (9CI) (CA INDEX NAME)



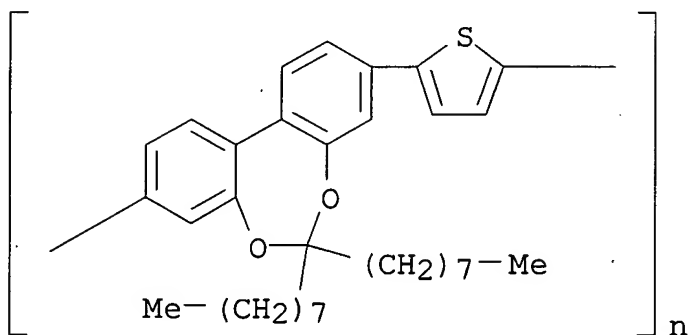
RN 678196-26-4 ZCA  
 CN Poly[2,1,3-benzoxadiazole-4,7-diyl(6,6-dioctyldibenzo[d,f][1,3]dioxepin-3,9-diyl)] (9CI) (CA INDEX NAME)

pin-3,9-diyl)] (9CI) (CA INDEX NAME)



RN 678196-27-5 ZCA

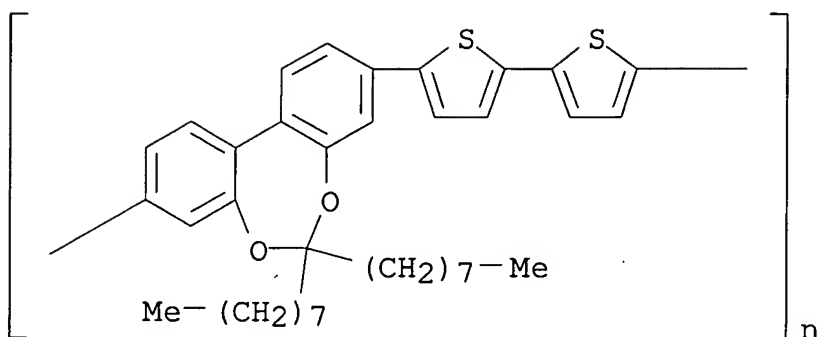
CN Poly[(6,6-diocetyl-dibenzo[d,f][1,3]dioxepin-3,9-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



RN 678196-28-6 ZCA

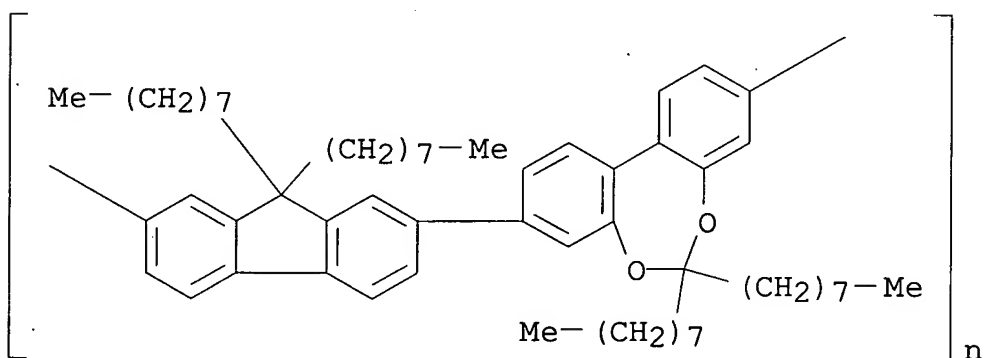
CN Poly[(6,6-diocetyl-dibenzo[d,f][1,3]dioxepin-3,9-diyl)[2,2'-bithiophene]-5,5'-diyl] (9CI) (CA INDEX NAME)





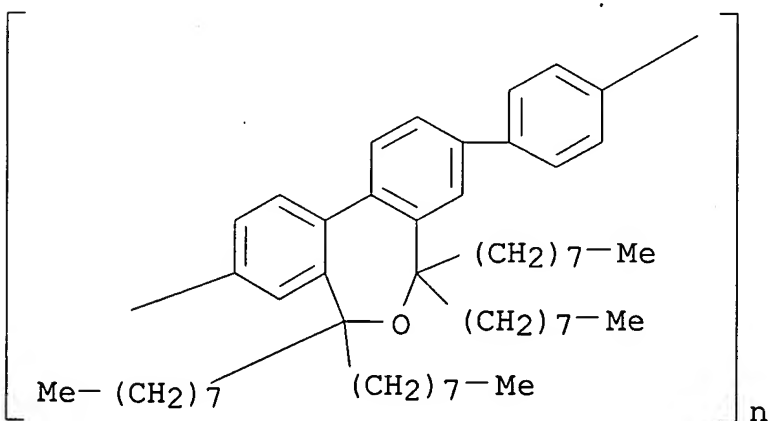
RN 678196-29-7 ZCA

CN Poly[(6,6-dioctyldibenzo[d,f][1,3]dioxepin-3,9-diyl)(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)



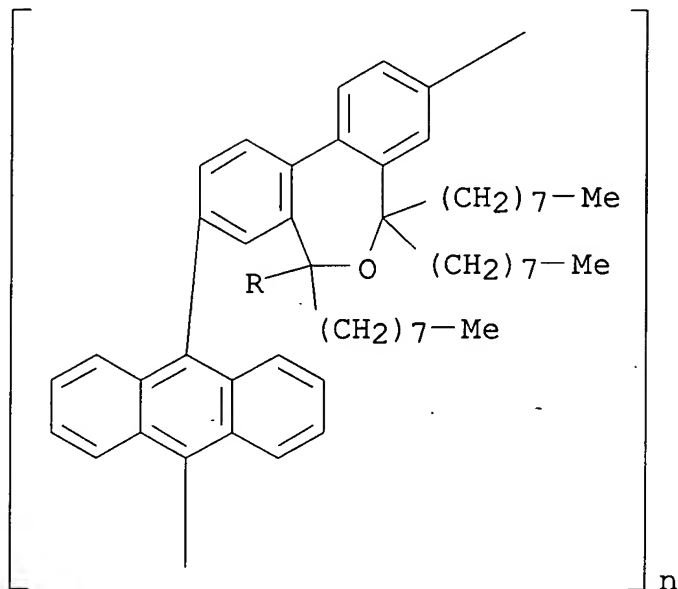
RN 678196-30-0 ZCA

CN Poly[(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)-1,4-phenylene] (9CI) (CA INDEX NAME)

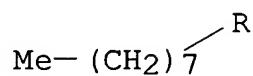


RN 678196-31-1 ZCA  
 CN Poly[(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)-9,10-anthracenediyl] (9CI) (CA INDEX NAME)

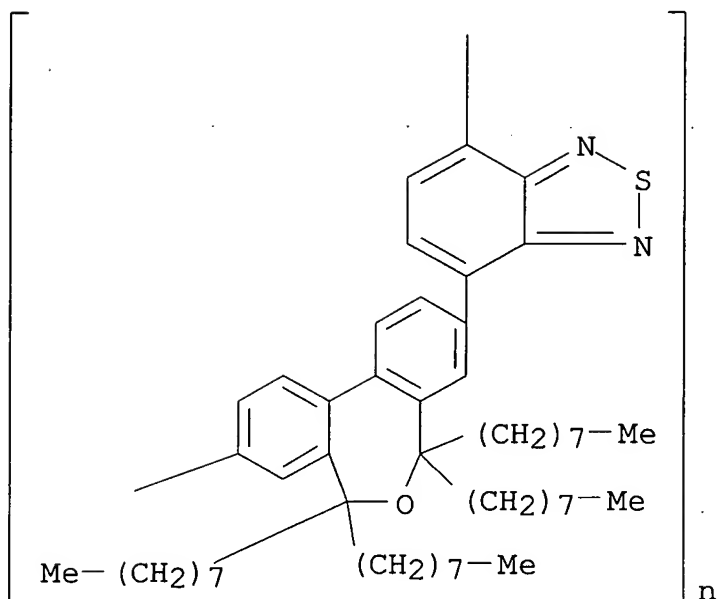
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PAGE 2-A

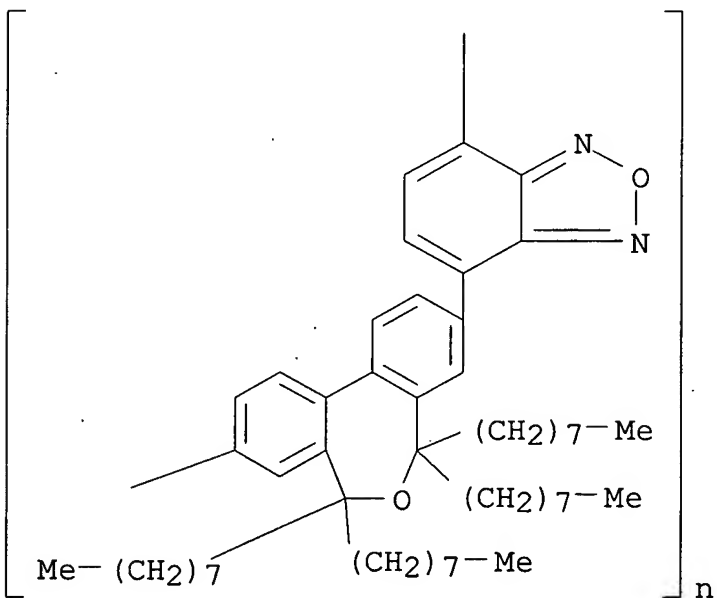


RN 678196-32-2 ZCA  
 CN Poly[2,1,3-benzothiadiazole-4,7-diyl(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)] (9CI) (CA INDEX NAME)



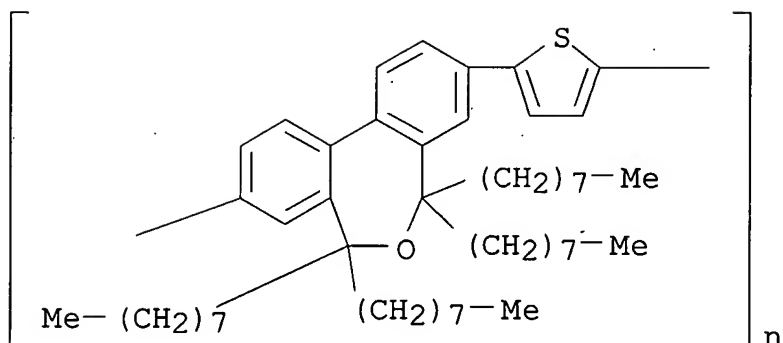
RN 678196-33-3 ZCA

CN Poly[2,1,3-benzoxadiazole-4,7-diyl(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)] (9CI) (CA INDEX NAME)



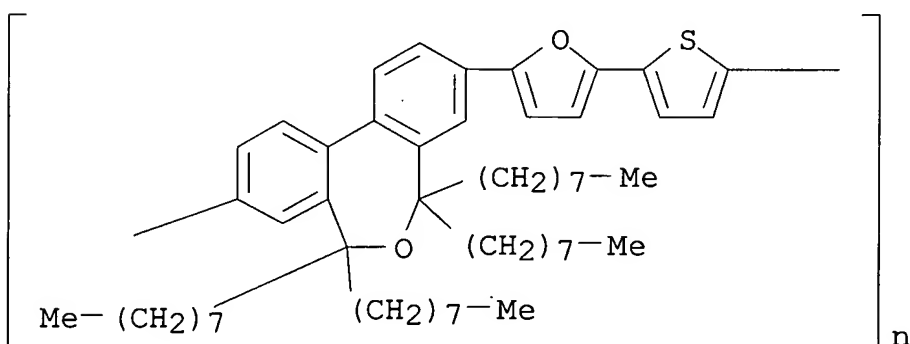
RN 678196-34-4 ZCA

CN Poly[(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



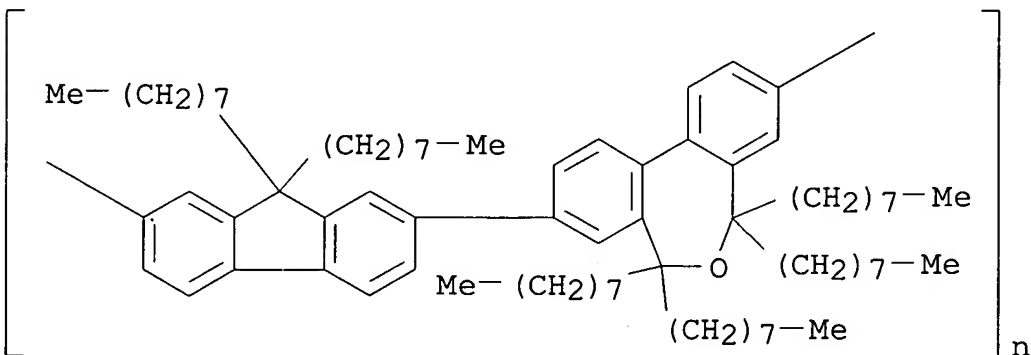
RN 678196-35-5 ZCA

CN Poly[(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)-2,5-furandiyl-2,5-thiophenediyl] (9CI) (CA INDEX NAME)



RN 678196-36-6 ZCA

CN Poly[(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl)(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)



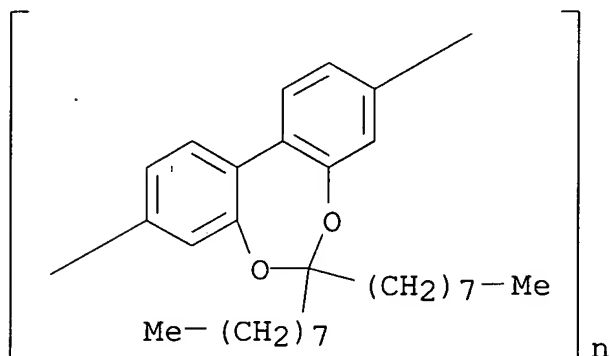
IT 678196-20-8P 678196-22-0P 678196-41-3P

(polymeric fluorescent substances and their prodn. and org.)

electroluminescent devices using them)

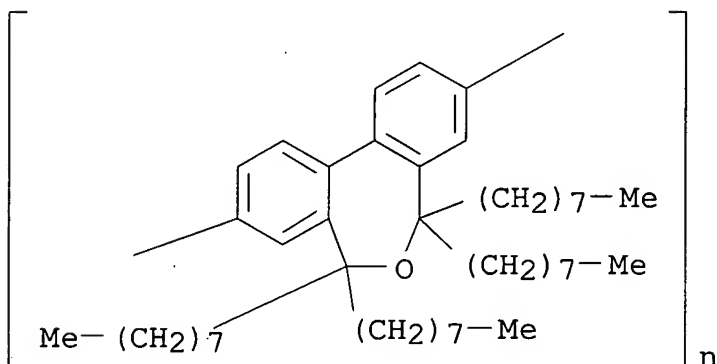
RN 678196-20-8 ZCA

CN Poly(6,6-dioctyldibenzo[d,f][1,3]dioxepin-3,9-diyl) (9CI) (CA INDEX NAME)



RN 678196-22-0 ZCA

CN Poly(5,7-dihydro-5,5,7,7-tetraoctyldibenz[c,e]oxepin-3,9-diyl) (9CI) (CA INDEX NAME)



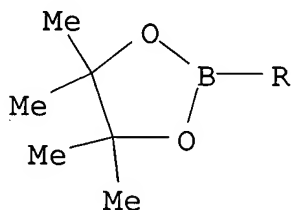
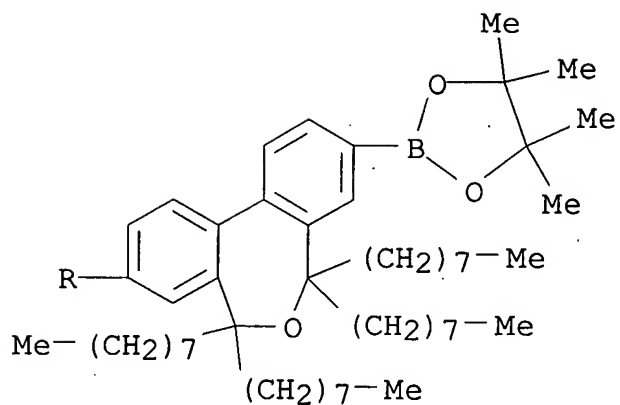
RN 678196-41-3 ZCA

CN Dibenz[c,e]oxepin, 3,9-dibromo-5,7-dihydro-5,5,7,7-tetraoctyl-, polymer with 5,7-dihydro-5,5,7,7-tetraoctyl-3,9-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)dibenz[c,e]oxepin (9CI) (CA INDEX NAME)

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CRN 678196-40-2

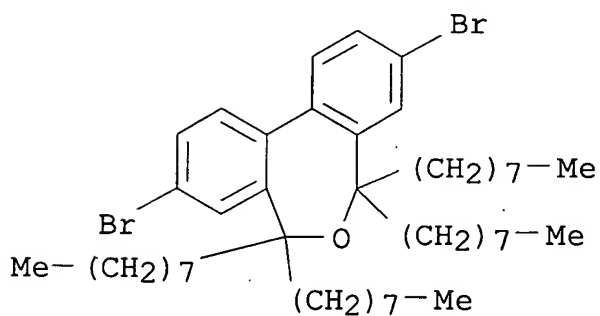
CMF C58 H98 B2 O5



CM 2

CRN 678196-37-7

CMF C46 H74 Br2 O



IT 678196-39-9

(polymeric fluorescent substances and their prodn. and org.  
electroluminescent devices using them)

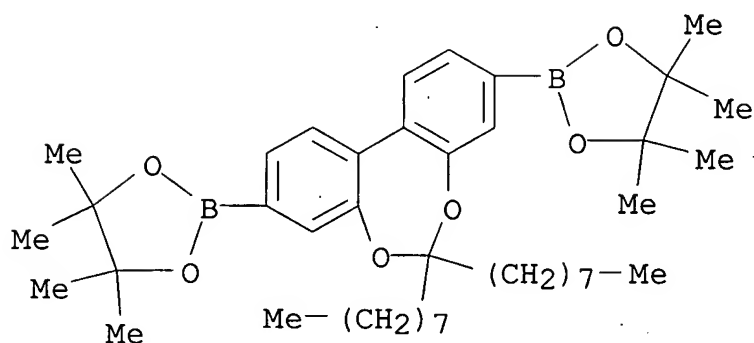
RN 678196-39-9 ZCA

CN Dibenzo[d,f][1,3]dioxepin, 3,9-dibromo-6,6-dioctyl-, polymer with  
6,6-dioctyl-3,9-bis(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)dibenzo[d,f][1,3]dioxepin (9CI) (CA INDEX NAME)

CM 1

CRN 678196-38-8

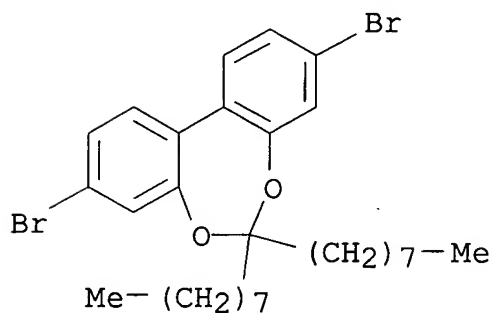
CMF C41 H64 B2 O6



CM 2

CRN 678196-19-5

CMF C29 H40 Br2 O2



IT 678196-23-1 678196-24-2 678196-25-3  
 678196-26-4 678196-27-5 678196-28-6  
 678196-29-7 678196-30-0 678196-31-1  
 678196-32-2 678196-33-3 678196-34-4  
 678196-35-5 678196-36-6

(polymeric fluorescent substances and their prodn. and org.  
 electroluminescent devices using them)

IT 678196-20-8P 678196-22-0P 678196-41-3P

(polymeric fluorescent substances and their prodn. and org.  
 electroluminescent devices using them)

IT 678196-39-9

(polymeric fluorescent substances and their prodn. and org.  
 electroluminescent devices using them)

L10 ANSWER 4 OF 24 ZCA COPYRIGHT 2005 ACS on STN

139:365326 Electrochemical properties of new n-type .pi.-conjugated polybipyridines and polybiphenylenes with various bridging units. Choi, Byoung-Ki; Yamamoto, Takakazu (Chemical Resources Laboratory, Tokyo Institute of Technology, Midori-ku, Yokohama, 226-8503, Japan). Electrochemistry Communications, 5(7), 566-570 (English) 2003. CODEN: ECCMF9. ISSN: 1388-2481. Publisher: Elsevier Science B.V..

AB New electrochem. active .pi.-conjugated polymers were prepd. They had polybipyridine or Poly-biphenylene type structure with an -N:N-, -O-, or -NH-CO-NH- bridging group between the two arom. units, and underwent more facile electrochem. redn. (or n-type doping) than the mother .pi.-conjugated polymers without the bridging group.

IT 464895-39-4P 464895-40-7P  
(n-type .pi.-conjugated polybipyridines and polybiphenylenes with various bridging units)

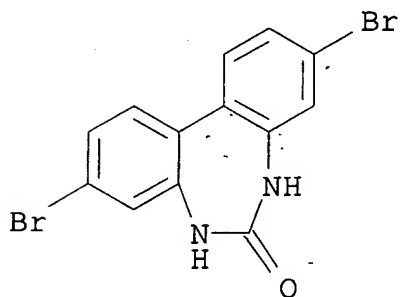
RN 464895-39-4 ZCA

CN 6H-Dibenzo[d,f][1,3]diazepin-6-one, 3,9-dibromo-5,7-dihydro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 464895-36-1

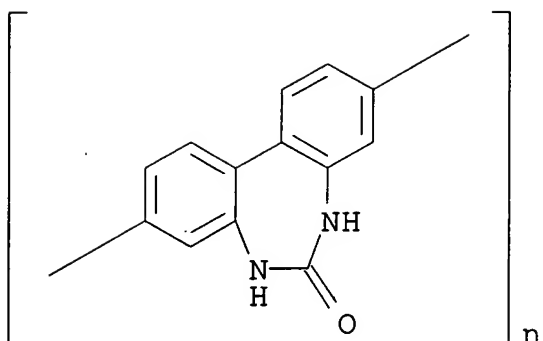
CMF C13 H8 Br2 N2 O



RN 464895-40-7 ZCA

CN Poly(6,7-dihydro-6-oxo-5H-dibenzo[d,f][1,3]diazepine-3,9-diyl) (9CI)  
(CA INDEX NAME)





IT 464895-39-4P 464895-40-7P

(n-type .pi.-conjugated polybipyridines and polybiphenylenes with various bridging units)

L10 ANSWER 5 OF 24 ZCA COPYRIGHT 2005 ACS on STN

139:133908 New ultraviolet emissive wide-bandgap semiconductive polymers. Lu, Ping; Zhang, Haiquan; Zheng, Yan; Ma, Yuguang; Zhang, Guo; Chen, Xinfang; Shen, Jiacong (Key Lab of Supramolecular Structure and Materials, Jilin University, Changchun, 130023, Peop. Rep. China). Synthetic Metals, 135-136, 205-206 (English)·2003. CODEN: SYMEDZ. ISSN: 0379-6779. Publisher: Elsevier Science B.V..

AB New wide-band gap semiconductive polymers composed of fluorene and seven-membered bridged biphenyl moieties were synthesized. The polymers showed a band gap of >3.3 eV and light emission at <380 nm with quantum efficiency of >60%.

IT 569359-93-9P 569359-99-5P

(prepn. of UV-emissive wide-band gap semiconductive polymers)

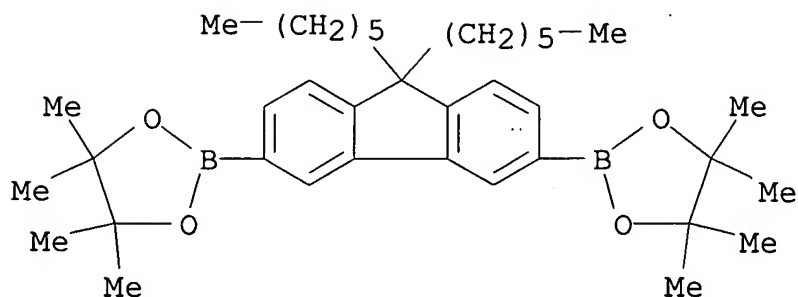
RN 569359-93-9 ZCA

CN Dibenzo[d,f][1,3]dioxepin, 2,10-dibromo-6,6-dimethyl-, polymer with 2,2'-(9,9-dihexyl-9H-fluorene-3,6-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

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CRN 569359-92-8

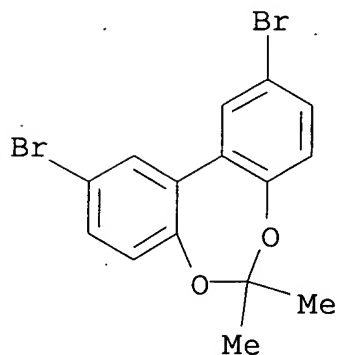
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CM 2

CRN 129693-65-8

CMF C15 H12 Br2 O2



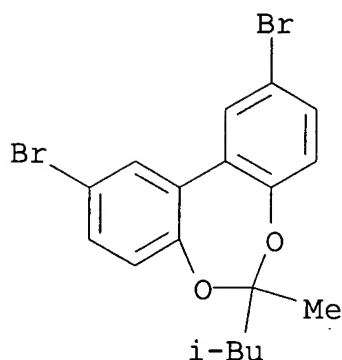
RN 569359-99-5 ZCA

CN Dibenzo[d,f][1,3]dioxepin, 2,10-dibromo-6-methyl-6-(2-methylpropyl)-, polymer with 2,2'-(9,9-dihexyl-9H-fluorene-3,6-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

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CRN 569359-98-4

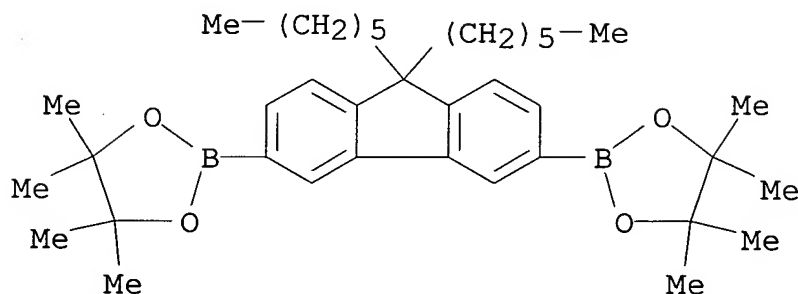
CMF C18 H18 Br2 O2



CM 2

CRN 569359-92-8

CMF C37 H56 B2 O4



IT 569359-93-9P 569359-99-5P  
(prepn. of UV-emissive wide-band gap semiconductive polymers)

L10 ANSWER 6 OF 24 ZCA COPYRIGHT 2005 ACS on STN

137:338605 Novel synthesis of oxetane resins from multifunctional oxetane compounds and cyclic carboxylic anhydrides. Nishikubo, Tadaomi; Kameyama, Atsushi; Kuriyama, Akira (Toa Gosei Chemical Industry Co., Ltd., Japan; Kanagawa University). Jpn. Kokai Tokkyo Koho JP 2002322268 A2 20021108, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-130868 20010427.

AB Thermosetting reaction of multifunctional oxetane compds. [e.g., 1,4-bis(3-ethyl-3-oxetanylmethoxymethyl)benzene (I), etc.] with cyclic carboxylic anhydrides (e.g., phthalic anhydride, succinic anhydride, etc.), producing network resins with less curing shrinkage than epoxy resins, are claimed. The resins are useful as less-irritating substitutes for epoxy resins in electronic applications. Thus, I and phthalic anhydride were polymd. at

220.degree. in the presence of tetrabutylphosphonium bromide to give a gel of gel fraction 92%.

IT 473995-22-1P 473995-27-6P

(novel synthesis of less-irritating oxetane resins from cyclic carboxylic anhydrides)

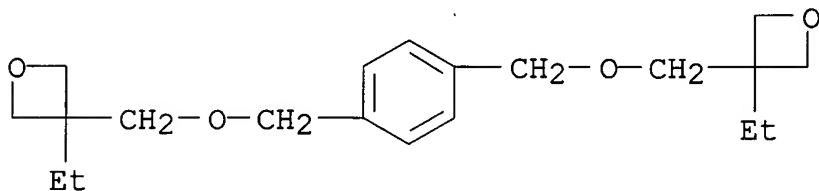
RN 473995-22-1 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with 3,3'-[1,4-phenylenebis(methyleneoxymethylene)]bis[3-ethyloxetane] (9CI) (CA INDEX NAME)

CM 1

CRN 142627-97-2

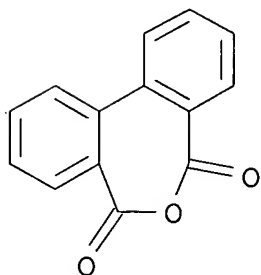
CMF C20 H30 O4



CM 2

CRN 6050-13-1

CMF C14 H8 O3



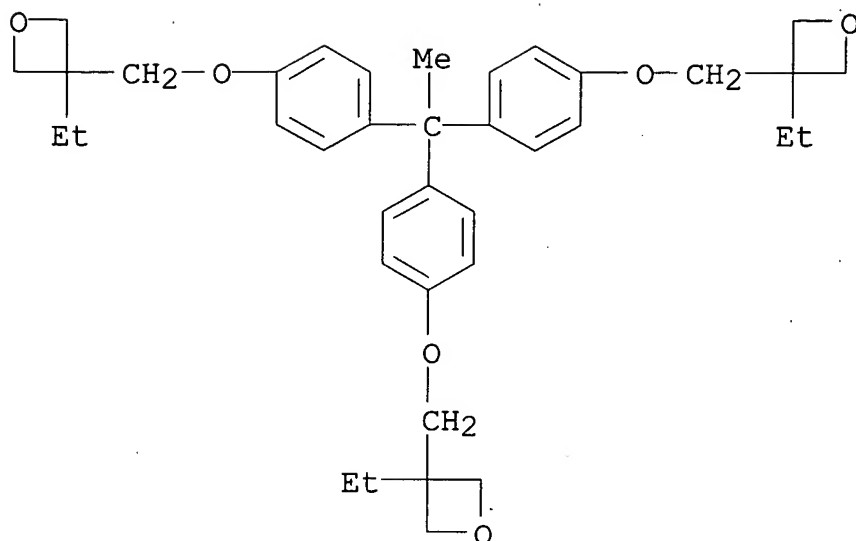
RN 473995-27-6 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with 3,3',3''-[ethylidynetris(4,1-phenyleneoxymethylene)]tris[3-ethyloxetane] (9CI) (CA INDEX NAME)

CM 1

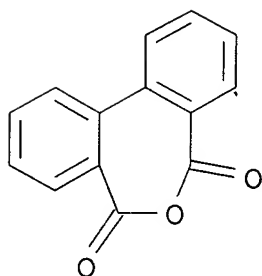
CRN 473995-23-2

CMF C38 H48 O6



CM 2

CRN 6050-13-1  
CMF C14 H8 O3



IT 473995-22-1P 473995-27-6P

(novel synthesis of less-irritating oxetane resins from cyclic  
carboxylic anhydrides)

L10 ANSWER 7 OF 24 ZCA COPYRIGHT 2005 ACS on STN

137:338318 Synthesis of alternating copolyesters of oxetanes with cyclic  
carboxylic anhydrides using quaternary onium salts. Nishikubo,  
Tadatomi; Kameyama, Atsushi; Kudo, Hiroto (Dep. Applied Chem., Fac.  
Eng., Kanagawa Univ., 3-27-1 Rokkakubashi, Kanagawa-ku, yokohama,  
221-8686, Japan). Polymer Preprints (American Chemical Society,  
Division of Polymer Chemistry), 43(2), 1135-1136 (English) 2002.  
CODEN: ACPPAY. ISSN: 0032-3934. Publisher: American Chemical  
Society, Division of Polymer Chemistry.

AB Alternating copolyesters of oxetanes with cyclic carboxylic anhydrides were synthesized using quaternary onium salts as catalysts. The alternating copolymer was a quite unique copolymer of oxetanes.

IT 433684-81-2P 474024-91-4P 474024-92-5P

(synthesis of alternating copolyesters of oxetanes with cyclic carboxylic anhydrides using quaternary onium salts)

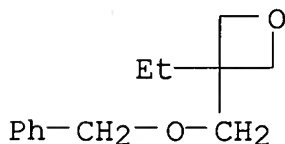
RN 433684-81-2 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with 3-ethyl-3-[(phenylmethoxy)methyl]oxetane, alternating (9CI) (CA INDEX NAME)

CM 1

CRN 18933-99-8

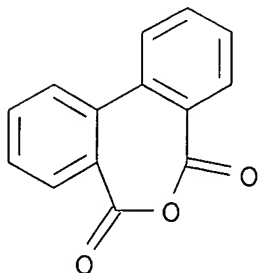
CMF C13 H18 O2



CM 2

CRN 6050-13-1

CMF C14 H8 O3



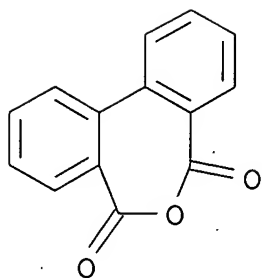
RN 474024-91-4 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with 3-ethyl-3-(phenoxy)methyl]oxetane (9CI) (CA INDEX NAME)

CM 1

CRN 6050-13-1

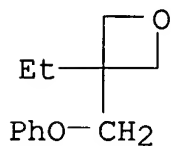
CMF C14 H8 O3



CM 2

CRN 3897-65-2

CMF C12 H16 O2



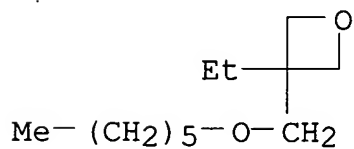
RN 474024-92-5 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with 3-ethyl-3-[(hexyloxy)methyl]oxetane (9CI) (CA INDEX NAME)

CM 1

CRN 226091-84-5

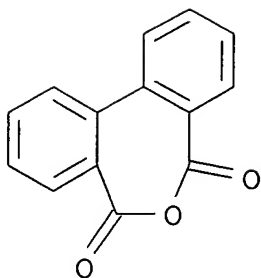
CMF C12 H24 O2



CM 2

CRN 6050-13-1

CMF C14 H8 O3



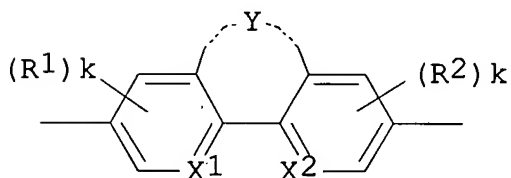
IT 433684-81-2P 474024-91-4P 474024-92-5P

(synthesis of alternating copolyesters of oxetanes with cyclic carboxylic anhydrides using quaternary onium salts)

L10 ANSWER 8 OF 24 ZCA COPYRIGHT 2005 ACS on STN

137:279633 Production of novel polymers with excellent electronic acceptability for electroluminescent materials. Yamamoto, Ryuichi; Cui, Bing Ji (TDK Corporation, Japan). Jpn. Kokai Tokkyo Koho JP 2002284862 A2 20021003, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-86128 20010323.

GI



I

AB Title novel electronic-accepting polymer, useful as electrochromic materials and battery active materials, etc. (no data), possesses repeating unit structure shown by formula I as a principal chain, wherein X1 and X2 independently represent C (benzene ring) or N (pyridine ring); R1 and R2 independently represent substituent; k = 0, 1, 2 or 3 when forming benzene ring, and k = 0, 1 or 2 when forming pyridine ring; Y = 5-7 hetero membered ring. Thus, poly[dipyrido[3,2-c:2',3'-e]bipyridazine-3,8-diyl] (Mw = 3,000) was synthesized by polymg. 3,8-dibromodipyrido[3,2-c:2',3'-e]bipyridazine (0.41 g) in the presence of bis(1,5-cyclooctadiene)nickel (0.86 g), 2,2'-bipyridine (0.41 g). and 1,5-cyclooctadiene (1.45 g) at 60.degree.-70.degree. for 48 h.

IT 464895-39-4P, 3,7-Dibromobenzo[2,1-d:1',2'-f]diazepine-6-one



homopolymer **464895-40-7P**, 3,7-Dibromobenzo[2,1-d:1',2'-f]diazepine-6-one homopolymer, sru  
 (synthesis of novel polymers with excellent electronic acceptability for electrochromic materials and battery active materials)

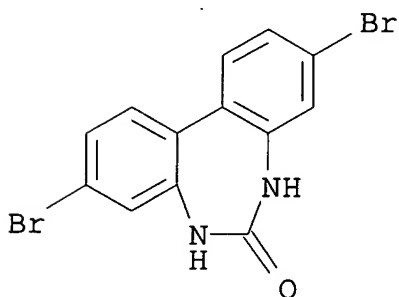
RN 464895-39-4 ZCA

CN 6H-Dibenzo[d,f][1,3]diazepin-6-one, 3,9-dibromo-5,7-dihydro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

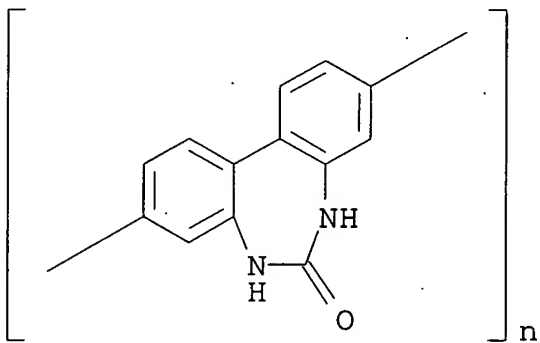
CRN 464895-36-1

CMF C13 H8 Br2 N2 O



RN 464895-40-7 ZCA

CN Poly(6,7-dihydro-6-oxo-5H-dibenzo[d,f][1,3]diazepine-3,9-diyl) (9CI)  
 (CA INDEX NAME)



IT **464895-39-4P**, 3,7-Dibromobenzo[2,1-d:1',2'-f]diazepine-6-one homopolymer **464895-40-7P**, 3,7-Dibromobenzo[2,1-d:1',2'-f]diazepine-6-one homopolymer, sru  
 (synthesis of novel polymers with excellent electronic acceptability for electrochromic materials and battery active materials)

L10 ANSWER 9 OF 24 ZCA COPYRIGHT 2005 ACS on STN

137:6534 The First Synthesis of Alternating Copolymers of Oxetanes with Cyclic Carboxylic Anhydrides Using Quaternary Onium Salts.

Kameyama, Atsushi; Ueda, Kensuke; Kudo, Hiroto; Nishikubo, Tadatomi (Department of Applied Chemistry Faculty of Engineering, Kanagawa University, Kanagawa-ku, Yokohama, 221-8686, Japan).

Macromolecules, 35(10), 3792-3794 (English) 2002. CODEN: MAMOBX. ISSN: 0024-9297. Publisher: American Chemical Society.

AB Polymn. of 3-(benzyloxymethyl)-3-ethyloxetane (I) and phthalic anhydride in the presence of tetrabutylphosphonium bromide without solvent gave an alternating copolymer having Mn of 11,100 in 78% yield. When tetrabutylphosphonium chloride or tetraphenylphosphonium bromide was used for the copolymn., the corresponding alternating copolymer with Mn of 9500 and Mn of 7300 were obtained. The copolymn. of I with diphenic anhydride provided the alternating copolymer with Mn of 3000. The copolymn. of 3-ethyl-3-phenoxymethyloxetane and 3-ethyl-3-hexyloxymethyloxetane with phthalic anhydride gave the alternating copolymers with Mn of 6500 and 4100, resp.

IT 433684-81-2P, 3-(Benzyloxymethyl)-3-ethyloxetane-diphenic anhydride alternating copolymer  
(prepn. of alternating copolymers of oxetanes with cyclic carboxylic anhydrides using quaternary phosphonium salts)

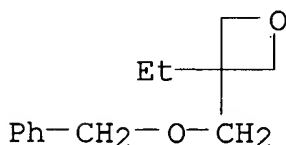
RN 433684-81-2 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with 3-ethyl-3-[(phenylmethoxy)methyl]oxetane, alternating (9CI) (CA INDEX NAME)

CM 1

CRN 18933-99-8

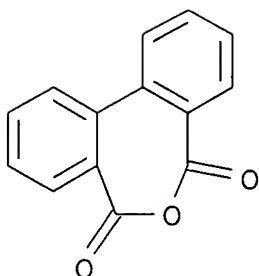
CMF C13 H18 O2



CM 2

CRN 6050-13-1

CMF C14 H8 O3

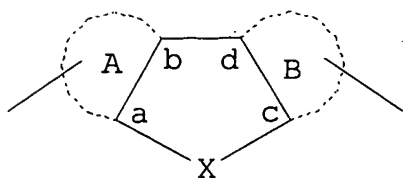


IT **433684-81-2P**, 3-(Benzyloxymethyl)-3-ethyloxetane-diphenic anhydride alternating copolymer  
(prepn. of alternating copolymers of oxetanes with cyclic carboxylic anhydrides using quaternary phosphonium salts).

L10 ANSWER 10 OF 24 ZCA COPYRIGHT 2005 ACS on STN

136:295241 Semiconductive twisted polymers, uses thereof and processes for the preparation of statistical semiconductive copolymers.  
Holmes, Andrew Bruce; Martin, Rainer E.; Ma, Yuguang; Rees, Ian D.; Franco, Cacialli; Fischmeister, Cedric (Cambridge Display Technology Limited, UK). PCT Int. Appl. WO 2002026856 A1 20020404, 67 pp.  
DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR.  
(English). CODEN: PIXXD2. APPLICATION: WO 2001-GB4303 20010926.  
PRIORITY: GB 2000-23538 20000926; US 2000-PV253876 20001129; GB 2001-8761 20010406.

GI



I

AB An optical device comprises a substrate and at least one semiconductive polymer supported by said substrate, wherein said semiconductive polymer contains repeat units I: wherein A and B are the same or different and each comprises wholly or partially an aryl

moiety or a heteroaryl moiety, said moiety in A being fused to the bond a-b and said moiety in B being fused to the bond c-d, and X is a linking unit, X being such that there is a torsion angle of at least 5.degree. between the bond a-b and the bond c-d about the bond b-d. Semiconductive polymers for use in said devices and monomers for use in the synthesis of said polymers are also provided together with a process for the synthesis of statistical copolymers. A typical copolymer was manufd. by polymn. of 1.84 g 9,9-dihexylfluorene-2,7-bis(isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaboronate) with 154 mg 2,7-dibromo-9,9-dihexylfluorene and 1 g 3,9-dibromo-5,7-dihydrodibenz[c,e]oxepin 48 h at 100.degree. in PhMe the presence of tetrakis(triphenylphosphine)palladium and aq. Na<sub>2</sub>CO<sub>3</sub>.

IT 407581-92-4P 407581-94-6P

(semiconductive twisted polymers having heterocycles in chains for use in optical devices)

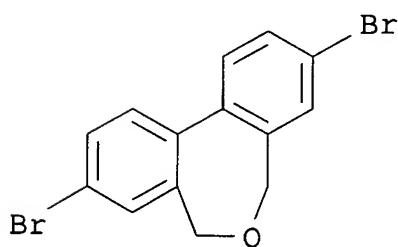
RN 407581-92-4 ZCA

CN Dibenz[c,e]oxepin, 3,9-dibromo-5,7-dihydro-, polymer with 2,7-dibromo-9,9-dihexyl-9H-fluorene and 2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI)  
(CA INDEX NAME)

CM 1

CRN 407578-95-4

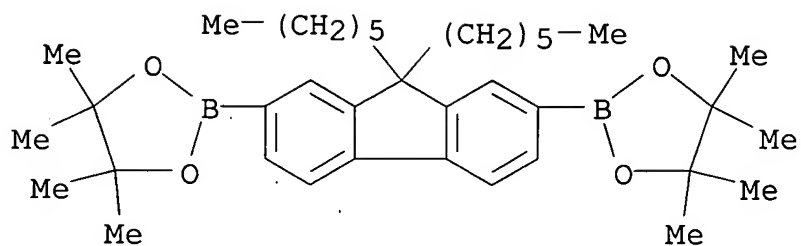
CMF C14 H10 Br2 O



CM 2

CRN 254755-24-3

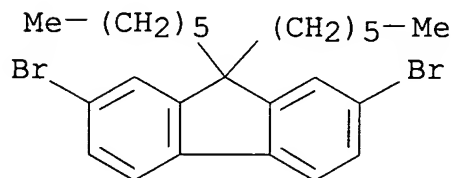
CMF C37 H56 B2 O4



CM 3

CRN 189367-54-2

CMF C25 H32 Br2



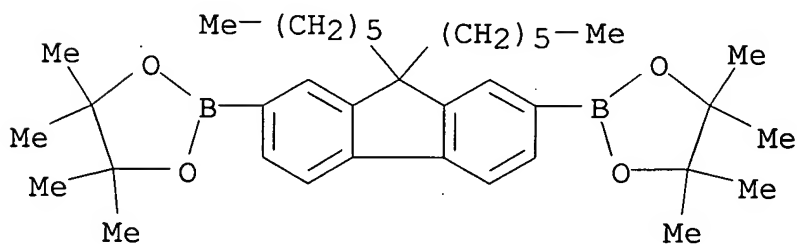
RN 407581-94-6 ZCA

CN Dibenzo[c,e]thiepin, 3,9-dibromo-5,7-dihydro-, polymer with  
2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-  
dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 254755-24-3

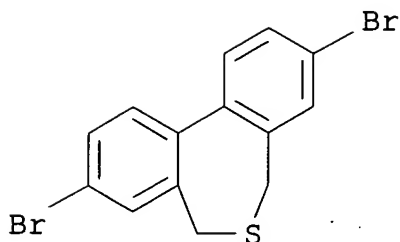
CMF C37 H56 B2 O4



CM 2

CRN 31458-24-9

CMF C14 H10 Br2 S



IT 407581-92-4P 407581-94-6P

(semiconductive twisted polymers having heterocycles in chains for use in optical devices)

L10 ANSWER 11 OF 24 ZCA COPYRIGHT 2005 ACS on STN

132:137765 The first example of the copolymerization of cyclic acid anhydrides with oxetane by bulky titanium bisphenolates. Takeuchi, Daisuke; Aida, Takuzo; Endo, Takeshi (Research Laboratory Resources Utilization, Tokyo Institute Technology, Yokohama, 226, Japan). Macromolecular Rapid Communications, 20(12), 646-649 (English) 1999. CODEN: MRCOE3. ISSN: 1022-1336. Publisher: Wiley-VCH Verlag GmbH.

AB The copolymn. of oxetane with glutaric anhydride was found to proceed with bulky titanium bisphenolate (I) as the initiator. The <sup>1</sup>H NMR spectrum of the produced copolymer shows that the copolymer contains both alternating units and oxytrimethylene units in the polymer main chain. I was also effective for the copolymn. of oxetane with other cyclic acid anhydrides, affording the corresponding copolymers. With a titanium bisalkolate complex a copolymer rich in alternating sequences was obtained.

IT 257288-57-6P

(copolymn. of cyclic acid anhydrides with oxetane by bulky titanium bisphenolates)

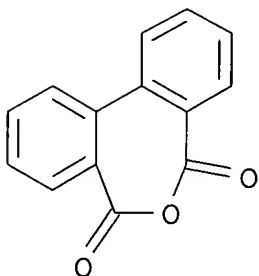
RN 257288-57-6 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with oxetane (9CI) (CA INDEX NAME)

CM 1

CRN 6050-13-1

CMF C14 H8 O3



CM 2

CRN 503-30-0

CMF C3 H6 O



IT 257288-57-6P

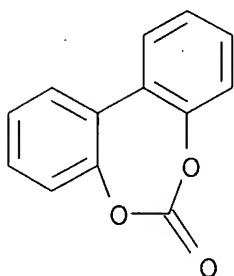
(copolymn. of cyclic acid anhydrides with oxetane by bulky titanium bisphenolates)

L10 ANSWER 12 OF 24 ZCA COPYRIGHT 2005 ACS on STN

128:75767 Synthesis and polymerization of cyclic carbonates containing a binaphthyl moiety. Takata, Toshikazu; Matsuoka, Hideo; Hirasa, Takashi; Matsuo, Jyuhō; Endo, Takeshi; Furusho, Yoshio (Dep. of Applied Chemistry, College of Engineering, Osaka Prefecture University, Osaka, 593-8531, Japan). Kobunshi Ronbunshu, 54(12), 974-981 (Japanese) 1997. CODEN: KBRBA3. ISSN: 0386-2186. Publisher: Kobunshi Gakkai.

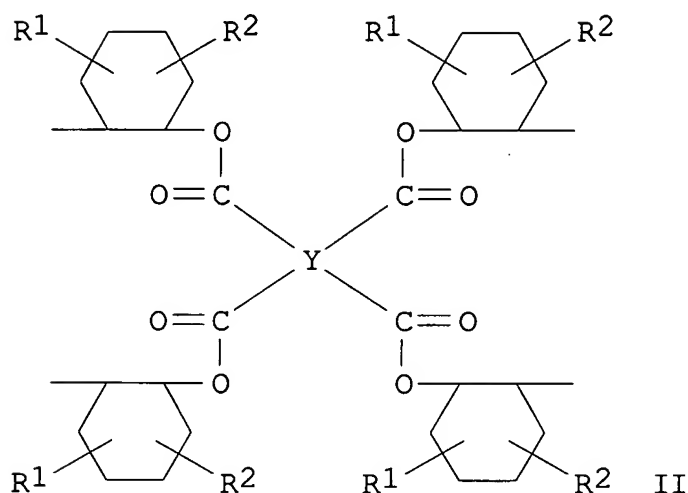
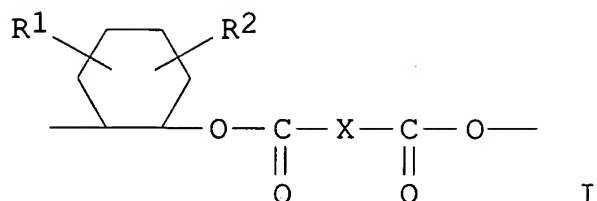
AB Synthesis and anionic ring-opening polymn. of arom. cyclic carbonates were investigated. Detailed studies with 2,2'-biphenol and 1,1'-bis(2-naphthol) (I) as diols, giving carbonate C1 and C2, resp., showed that the synthesis with 2 mol of p-nitrophenyl chloroformate and 2 mol of a tertiary amine afforded the best results (yields of 80%). Prepn. using phosgene dimer resulted in good yield of C1 but was not suitable for C2. Stability of C2 was low enough to react with methanol only by mixing to give an adduct readily. High ring-opening ability of C2 based on its strained ring was suggested from the structure simulation of C1 and C2. Anionic ring-opening polymn. of C2 initiated with t-BuOK and the related alkalis proceeded smoothly to give a polycarbonate quant. (.hivin.Mn ca. 15000). This polymer could also be obtained by polycondensation using I and bis(4-nitrophenyl)carbonate. Thermal anal., powder x-ray anal., and vol. change on polymn. were studied.

IT 125770-32-3P  
(synthesis and polymn. of cyclic carbonates contg. binaphthyl moiety)  
RN 125770-32-3 ZCA  
CN Dibenzo[d,f][1,3]dioxepin-6-one, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 7623-38-3  
CMF C13 H8 O3



IT 125770-32-3P  
(synthesis and polymn. of cyclic carbonates contg. binaphthyl moiety)  
L10 ANSWER 13 OF 24 ZCA COPYRIGHT 2005 ACS on STN  
125:222829 Polyesters and their manufacture. Yamauchi, Koji; Okita, Shigeru (Toray Industries, Japan). Jpn. Kokai Tokkyo Koho JP 08176283 A2 19960709 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-321044 19941222.  
GI





AB Polyesters having high glass transition temp. and good thermal stability and useful as engineering plastics comprise 90-100 mol% of structural repeating unit I and 0-10 mol% of structural unit II (R1, R2 = H, C1-5 alkyl, C1-5 alkylene-contg. structure; X = bivalent org. groups except chain alkylene and 1,2-phenylene; Y = tetravalent org. group) and are prepd. by the reaction of cyclohexene oxide derivs. with carboxylic anhydrides. Cyclohexene oxide 4.1 g and norbornenedicarboxylic anhydride 8.2 g were polymd. in 1,2,4-trichlorobenzene in the presence of diethylzinc catalyst at 150.degree. to give a polymer with Mn 11,200, Mw/Mn 2.5, Tg 154.degree., and Td 338.degree..

IT 181527-56-0P 181527-60-6P

(prepn. of polyesters from cyclohexene oxide derivs. and carboxylic anhydrides)

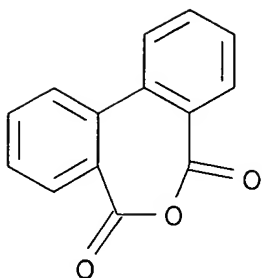
RN 181527-56-0 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with 7-oxabicyclo[4.1.0]heptane (9CI) (CA INDEX NAME)

CM 1

CRN 6050-13-1

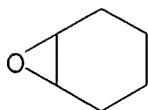
CMF C14 H8 O3



CM 2

CRN 286-20-4

CMF C6 H10 O



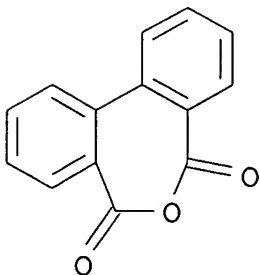
RN 181527-60-6 ZCA

CN [2]Benzopyrano[6,5,4-def][2]benzopyran-1,3,6,8-tetrone, polymer with  
dibenz[c,e]oxepin-5,7-dione and 7-oxabicyclo[4.1.0]heptane (9CI)  
(CA INDEX NAME)

CM 1

CRN 6050-13-1

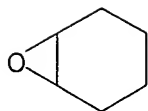
CMF C14 H8 O3



CM 2

CRN 286-20-4

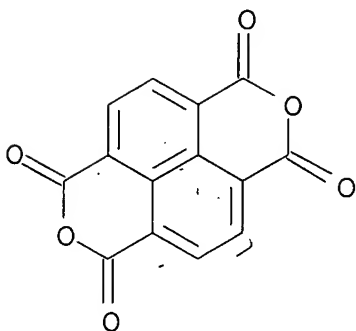
CMF C6 H10 O



CM 3

CRN 81-30-1

CMF C14 H4 O6



IT 181527-56-0P 181527-60-6P  
(prepn. of polyesters from cyclohexene oxide derivs. and  
carboxylic anhydrides)

L10 ANSWER 14 OF 24 ZCA COPYRIGHT 2005 ACS on STN

122:135531 Rigid polyurethane foams. Kita, Mitsugi; Sasaki, Masahiro;  
Watanabe, Minoru (Mitsui Toatsu Chemicals, Japan). Jpn. Kokai  
Tokkyo Koho JP 06199977 A2 19940719 Heisei, 6 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1992-348199 19921228.

AB The title foams with good adhesion, low d. and good dimensional  
stability, useful for refrigerators and thermal insulators, are  
prepd. without using CCl3F by treating org. polyisocyanates,  
polyols, blowing agents, catalysts, foam stabilizers, other  
additives, and 0.2-10 parts (per 100 parts polyisocyanates) acid  
anhydrides. Thus, a 152 parts of a mixt. of 100 parts Cosmonate  
M200 (polymeric 4,4'-diphenylmethane diisocyanate) and 0.5 part  
phthalic anhydride was treated with a polyol (prepd. from  
sucrose/glycerol and propylene glycol), 80, a polyol (prepd. from  
triethanol amine and propylene glycol) 20, H2O 2.0, a foam  
stabilizer 1.5, tetramethylhexamethylenediamine 1.5, and CCl2FCH3 35  
parts (cream time 12 s and gel time 64 s) to obtain a foam showing  
d. 23.5 kg/m3 and shrinkage 0.5%.

IT 161004-28-0P

(rigid polyurethane foams with dimensional stability for refrigerators and thermal insulators)

RN 161004-28-0 ZCA

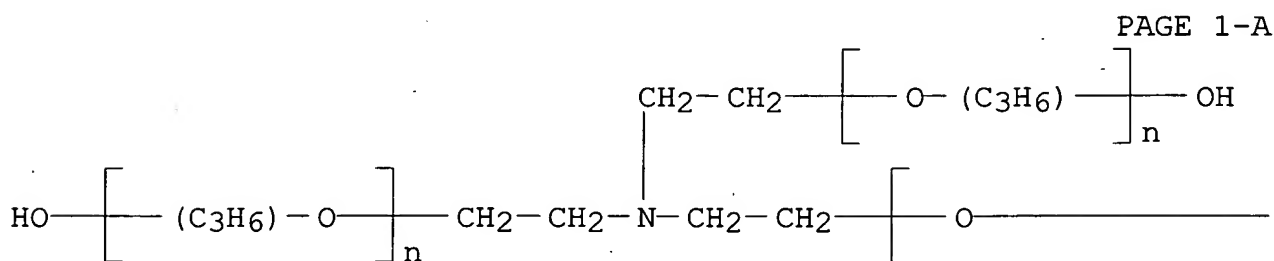
CN Isocyanic acid, polymethylenepolyphenylene ester, polymer with dibenz[c,e]oxepin-5,7-dione, .alpha.-hydro-.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)] ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), and .alpha.,.alpha.',.alpha.'''-(nitrilotri-2,1-ethanediyl)tris[.omega.-hydroxypoly[oxy(methyl-1,2-ethanediyl)]] (9CI) (CA INDEX NAME)

CM 1

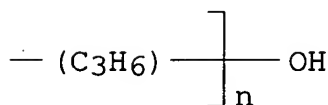
CRN 37208-53-0

CMF (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C6 H15 N O3

CCI IDS, PMS



PAGE 1-B

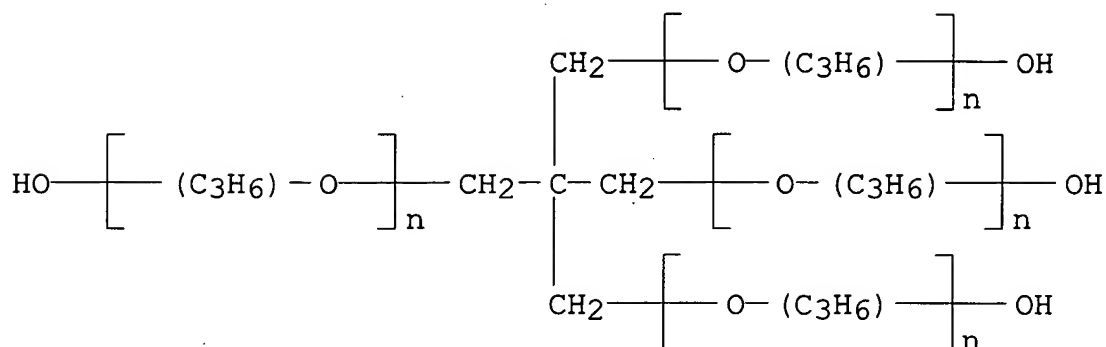


CM 2

CRN 9051-49-4

CMF (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n (C3 H6 O)n C5 H12 O4

CCI IDS, PMS



CM 3

CRN 9016-87-9

CMF Unspecified

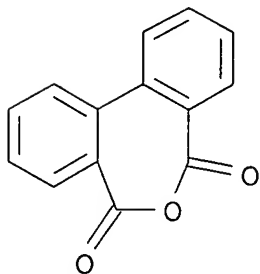
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 4

CRN 6050-13-1

CMF C14 H8 O3



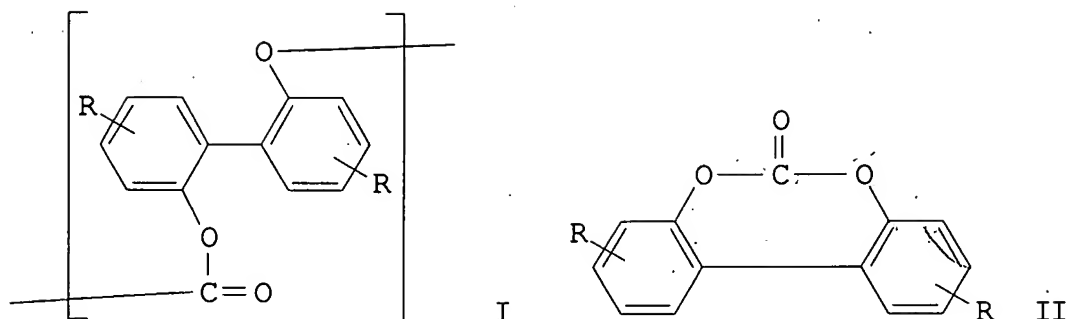
IT 161004-28-0P

(rigid polyurethane foams with dimensional stability for refrigerators and thermal insulators)

L10 ANSWER 15 OF 24 ZCA COPYRIGHT 2005 ACS on STN

121:84321 Aromatic polycarbonates and their manufacture. Ito, Seiji; Matsumura, Shunichi (Teijin Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06016801 A2 19940125 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-170811 19920629.

GI



AB Title polymers I (R = H, halo, C1-5 alkyl), with high-strength at ambient temp., pyrolyzable into monomers for recycling, and intrinsic viscosity (in a 60:40 PhOH-tetrachloroethane mixt. at 35.degree.) .gtoreq.0.2, are manufd. by ring-opening polymn. of II (R same as I) in the presence of 0.001-5 mol% initiator optionally in a solvent. Thus, stirring II (R = H) (III) in DMSO with 105 ppm moisture content at room temp. for 40 h gave polycarbonate with m.p. 258.5.degree., intrinsic viscosity 0.8, and glass transition temp. 132.degree.. Heating 1 part of the polycarbonate in a glass tube at 2 mm Hg and 270.degree. for 20 min produced 0.9 part III in the upper part of the glass tube.

IT 125770-32-3P

(prepn. of, pyrolyzable into monomer).

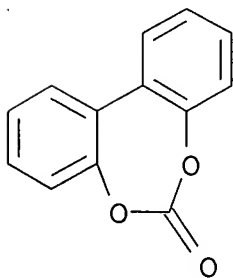
RN 125770-32-3 ZCA

CN Dibenzo[d,f][1,3]dioxepin-6-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7623-38-3

CMF C13 H8 O3



IT 125770-32-3P

(prepn. of, pyrolyzable into monomer)

L10 ANSWER 16 OF 24 ZCA COPYRIGHT 2005 ACS on STN

120:55097 Anionic ring-opening polymerization of several N-substituted diphenimides. Pyriadi, Thanun M.; Ahmad, Abbas F. (Coll. Sci., Univ. Baghdad, Baghdad, Iraq). Journal of Polymer Science, Part A: Polymer Chemistry, 31(13), 3199-203 (English) 1993. CODEN: JPACEC. ISSN: 0887-624X.

AB Five N-substituted diphenimides were prepd. from the corresponding N-substituted amic acids. Attempts to polymerize the prepd. seven-membered ring imides were partially successful. N-phenyldiphenimide was relatively the best monomer that polymd. anionically using butyllithium or sodium metal as the initiator. The other N-substituted imides were sluggish in anionic polymn. The resistance of the seven-membered ring imides toward ring-opening polymn. was attributed to the stability of the rings caused by the two phenylene groups adjacent to the carbonyls.

IT 152243-39-5P 152243-40-8P 152243-41-9P  
(prepn. and characterization of)

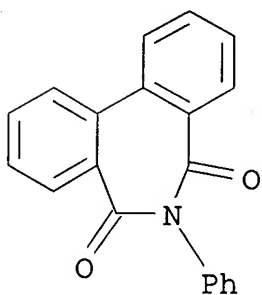
RN 152243-39-5 ZCA

CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6-phenyl-, homopolymer (9CI)  
(CA INDEX NAME)

CM 1

CRN 27022-16-8

CMF C20 H13 N O2



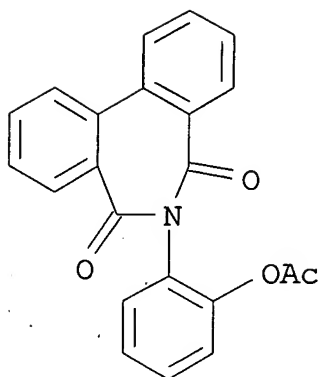
RN 152243-40-8 ZCA

CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6-[2-(acetyloxy)phenyl]-,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 152243-35-1

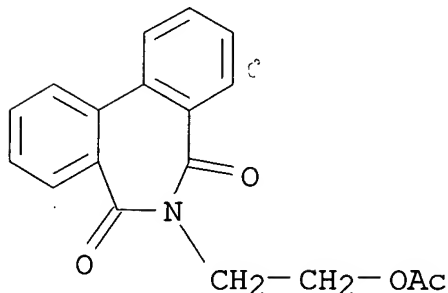
CMF C22 H15 N O4



RN 152243-41-9 ZCA  
 CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6-[2-(acetyloxy)ethyl]-,  
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 31374-75-1  
 CMF C18 H15 N O4



IT 152243-39-5P 152243-40-8P 152243-41-9P  
 (prepn. and characterization of)

L10 ANSWER 17 OF 24 ZCA COPYRIGHT 2005 ACS on STN

112:119525 Polymers of carbonic acid. 2. Synthesis and polymerization of 2,2'-dihydroxybiphenyl carbonate (4,5,6,7-dibenzo-2-oxo-1,3-dioxacycloheptane). Kricheldorf, Hans R.; Jenssen, Joerg (Inst. Tech. Makromol. Chem., Univ. Hamburg, Hamburg, 2000/13, Fed. Rep. Ger.). European Polymer Journal, 25(12), 1273-9 (English) 1989. CODEN: EUPJAG. ISSN: 0014-3057.

AB Phosgenation of 2,2'-dihydroxybiphenyl (I) in homogeneous soln. yielded mixts. of the monomeric and oligomeric carbonates, in particular the dimer. Good yields of the title monomer (II) were obtained by thermal transesterification of I bis(Me carbonate). All



attempts to polymerize II anionically in soln. failed. Bulk polymn. of II at 100.degree. or 160.degree. with Bu<sub>3</sub>SnOMe or Zn stearate yielded cryst. polycarbonates of low mol. wt. The K<sub>2</sub>CO<sub>3</sub>-initiated polymn. above 200.degree. was accompanied by a Kolbe-type rearrangement of CO<sub>2</sub> so that amorphous polyester-polycarbonates were formed.

IT 125770-32-3P

(prepn. of, catalysts for)

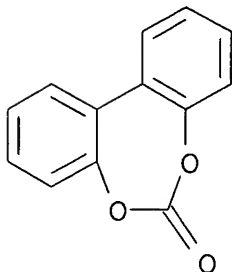
RN 125770-32-3 ZCA

CN Dibenzo[d,f][1,3]dioxepin-6-one, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7623-38-3

CMF C13 H8 O3



IT 125770-32-3P

(prepn. of, catalysts for)

L10 ANSWER 18 OF 24 ZCA COPYRIGHT 2005 ACS on STN

110:24661 Novel composite matrixes from crosslinked aromatic polyamides. Jones, Michael E. B.; Chisholm, Michael S. (Res. Technol. Dep., ICI Chem. Polym. Group, Runcorn/Cheshire, WA7 4QD, UK). Polymer, 29(9), 1699-703 (English) 1988. CODEN: POLMAG. ISSN: 0032-3861.

AB Matrix polymers based on amorphous crosslinkable arom. polyamides possess an attractive combination of good moisture resistance, high glass transition temp., and reasonable toughness. The polyamide synthesis utilizes the ring-opening reaction of bis(2,2'-diphenic imides) with multifunctional arom. primary amines at elevated temps. The mech. properties of the polyamides are strongly influenced by the ratio of imide to amine. Optimum properties are obtained with a nonstoichiometric ratio of 1:1.2 equiv of imide/amine.

IT 118056-22-7P 118073-70-4P 118073-74-8P

(prepn. of)

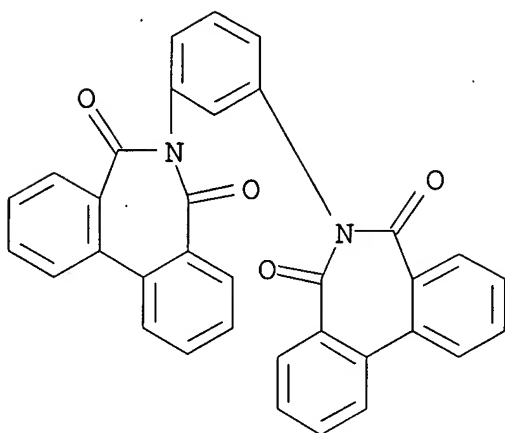
RN 118056-22-7 ZCA

CN Formaldehyde, polymer with benzenamine and 6,6'-(1,3-phenylene)bis[5H-dibenz[c,e]azepine-5,7(6H)-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 114456-64-3

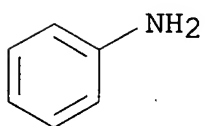
CMF C34 H20 N2 O4



CM 2

CRN 62-53-3

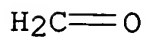
CMF C6 H7 N



CM 3

CRN 50-00-0

CMF C H2 O

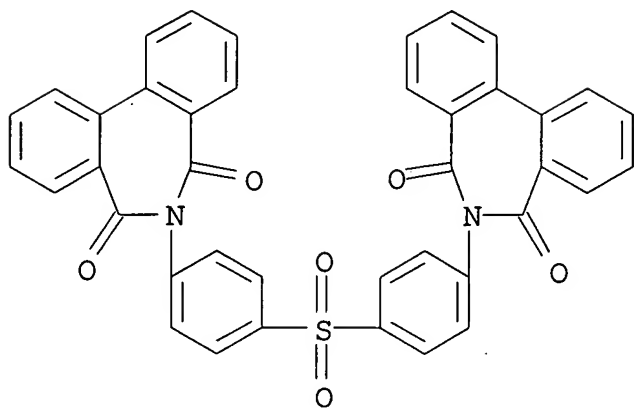


RN 118073-70-4 ZCA

CN Formaldehyde, polymer with benzenamine and 6,6'-(sulfonyldi-4,1-phenylene)bis[5H-dibenz[c,e]azepine-5,7(6H)-dione] (9CI) (CA INDEX NAME)

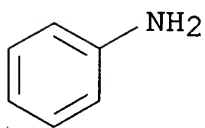
CM 1

CRN 107811-60-9  
CMF C40 H24 N2 O6 S



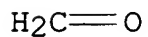
CM 2

CRN 62-53-3  
CMF C6 H7 N



CM 3

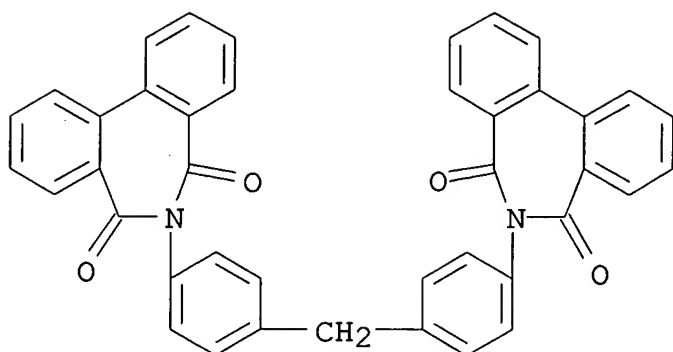
CRN 50-00-0  
CMF C H2 O



RN 118073-74-8 ZCA  
CN Formaldehyde, polymer with benzenamine and 6,6'-(methylenedi-4,1-phenylene)bis[5H-dibenz[c,e]azepine-5,7(6H)-dione] (9CI) (CA INDEX NAME)

CM 1

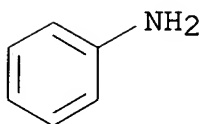
CRN 107810-51-5  
CMF C41 H26 N2 O4



CM 2

CRN 62-53-3

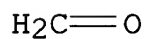
CMF C6 H7 N



CM 3

CRN 50-00-0

CMF C H2 O



IT 118056-22-7P 118073-70-4P 118073-74-8P  
(prepn. of)

L10 ANSWER 19 OF 24 ZCA COPYRIGHT 2005 ACS on STN  
108:96314 Radically curable, organic solvent-soluble aromatic  
polyimides. Yokota, Kanichi; Ikeda, Akihiko; Ai, Hideo (Asahi  
Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP  
62190227 A2 19870820 Showa, 8 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1986-33449 19860218.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Polyimides contg. repeating unit Q [X, X1, X2, X3, X4 = tetravalent (hetero)cyclic group; Y1, Y2, Y3 = divalent (hetero)cyclic group; at least one of Z1 and Z2 contains reactive C:C bond; l, m, n .gtoreq.0] are sol. in org. solvents, heat- or photo-curable, heat-resistant, and useful for insulating films in semiconductor devices. Thus, a soln. of 16.1 g 3,3',4,4'-benzophenonetetracarboxylic acid dianhydride in 116 mL DMF was added over 3 h to a soln. of 10.7 g 3,3'-diaminobenzidine in 96 mL DMF with ice cooling and stirring, the mixt. was stirred at 25.degree. for 2 h, 11.1 g phthalic anhydride, 2.5 g maleic anhydride, and 6.5 mL pyridine were added, stirred at 25.degree. for 20 h, the resulting polyamic acid soln. was mixed with 37.8 mL Ac2O and 25.8 mL pyridine and stirred at 25.degree. for 3 h to give a polyimide showing inherent viscosity 0.15 in 1% N-methylpyrrolidone (I) soln. at 30.degree.. The polyimide (2 g) was dissolved in 6 mL cyclopentanone, applied to a Si wafer, and dried to form a 3 .mu.-thick film, which dissolved in I in 8 s but was cured at 400.degree. for 1 h to become insol. in I and show 5% wt. loss temp. 480.degree..

IT 113054-82-3P

(prepn. of, curable, heat-resistant, org. solvent sol., for insulation coating on semiconductor devices)

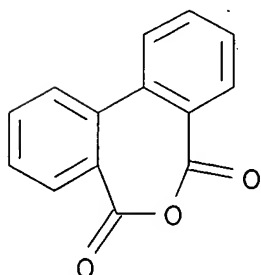
RN 113054-82-3 ZCA

CN Dibenz[c,e]oxepin-5,7-dione, polymer with [1,1'-biphenyl]-3,3',4,4'-tetramine, 5,5'-carbonylbis[1,3-isobenzofurandione] and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 6050-13-1

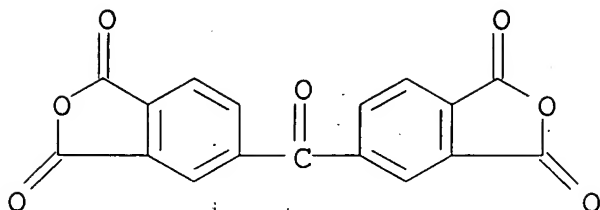
CMF C14 H8 O3



CM 2

CRN 2421-28-5

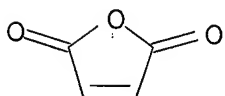
CMF C17 H6 O7



CM 3

CRN 108-31-6

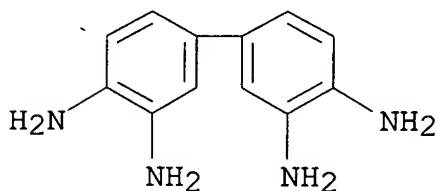
CMF C4 H2 O3



CM 4

CRN 91-95-2

CMF C12 H14 N4



IT 113054-82-3P

(prepn. of, curable, heat-resistant, org. solvent sol., for insulation coating on semiconductor devices)

L10 ANSWER 20 OF 24 ZCA COPYRIGHT 2005 ACS on STN

106:214618 Polyamides. Lindley, Andrew Arthur (Imperial Chemical Industries PLC, UK). Eur. Pat. Appl. EP 203770 A1 19861203, 20 pp. DESIGNATED STATES: R: DE, FR, GB, IT, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1986-303823 19860520. PRIORITY: GB 1985-12683 19850520.

AB Polyamides useful as the matrix in fiber-reinforced composites are prepd. from arom. N,N'-hydrocarbylenebis(2,2'-

biphenyldicarboximides), optionally substituted, and diamines. Thus, a composite prep'd. by impregnating carbon fiber (38%) with a  $\text{CHCl}_3$  soln. contg. 3.96% 4,4'-diaminodiphenylmethane (I) and 12.2% diimide (obtained from 9.3 g 2,2'-biphenyldicarboxylic anhydride and 4.1 g I) had tensile modulus 8.0, 7.9 and 7.5 GPa at 20, 100, and 200.degree., resp., and peak of loss ( $\tan \delta$ ) at 270.degree..

IT 107810-52-6P 107810-53-7P 107810-54-8P  
 107810-55-9P 107810-58-2P 107810-59-3P  
 107810-60-6P 107810-61-7P 107871-02-3P  
 (manuf. of, for carbon fiber composites)

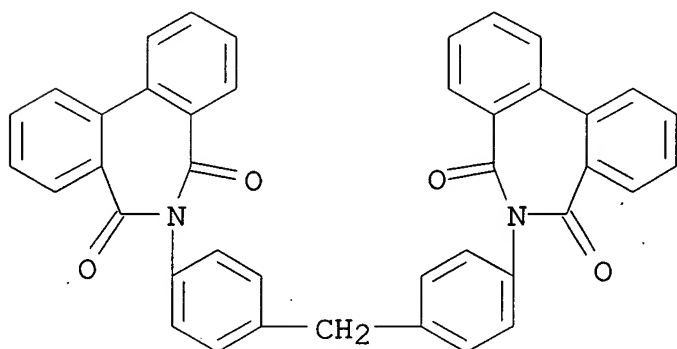
RN 107810-52-6 ZCA

CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6,6'-(methylenedi-4,1-phenylene)bis-, polymer with 4,4'-methylenebis[benzenamine] (9CI)  
 (CA INDEX NAME)

CM 1

CRN 107810-51-5

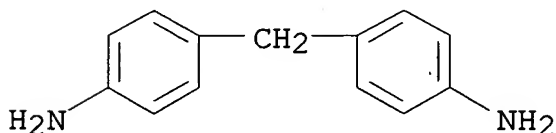
CMF C41 H26 N2 O4



CM 2

CRN 101-77-9

CMF C13 H14 N2



RN 107810-53-7 ZCA

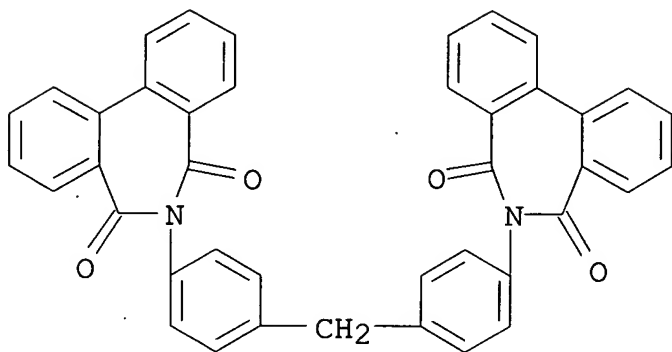
CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6,6'-(methylenedi-4,1-phenylene)bis-, polymer with 4,4'-methylenebis[cyclohexanamine]

(9CI) (CA INDEX NAME)

CM 1

CRN 107810-51-5

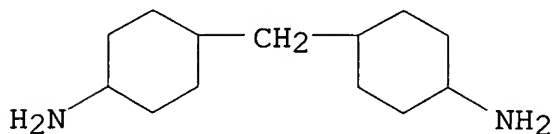
CMF C41 H26 N2 O4



CM 2

CRN 1761-71-3

CMF C13 H26 N2



RN 107810-54-8 ZCA

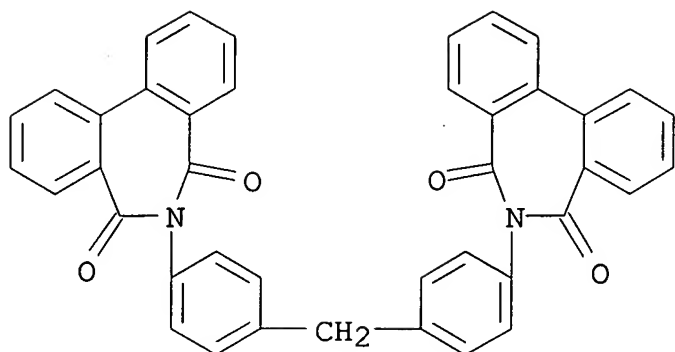
CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6,6'-(methylenedi-4,1-phenylene)bis-, polymer with 1,12-dodecanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 107810-51-5

CMF C41 H26 N2 O4

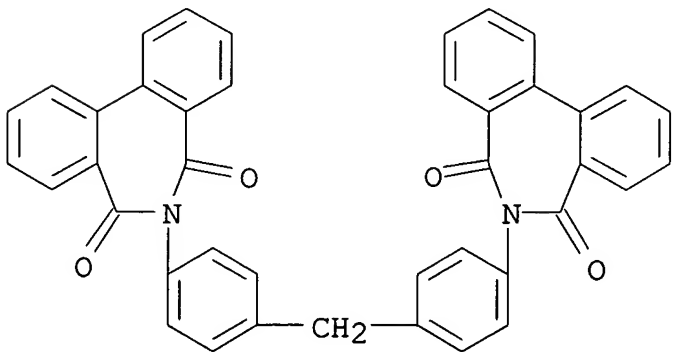




CM 2

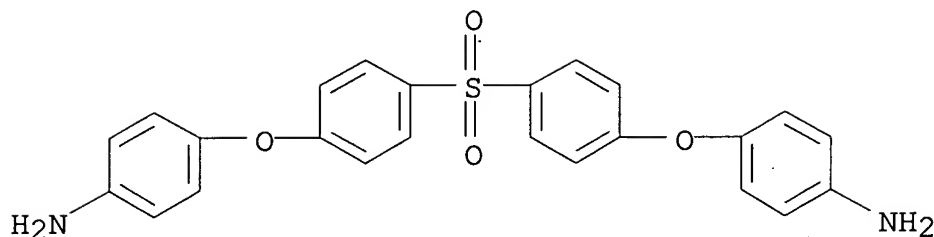
CRN 2783-17-7  
CMF C12 H28 N2 $\text{H}_2\text{N}-(\text{CH}_2)_{12}-\text{NH}_2$ RN 107810-55-9 ZCA  
CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6,6'-(methylenedi-4,1-phenylene)bis-, polymer with 4,4'-[sulfonylbis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 107810-51-5  
CMF C41 H26 N2 O4

CM 2

CRN 13080-89-2  
CMF C24 H20 N2 O4 S

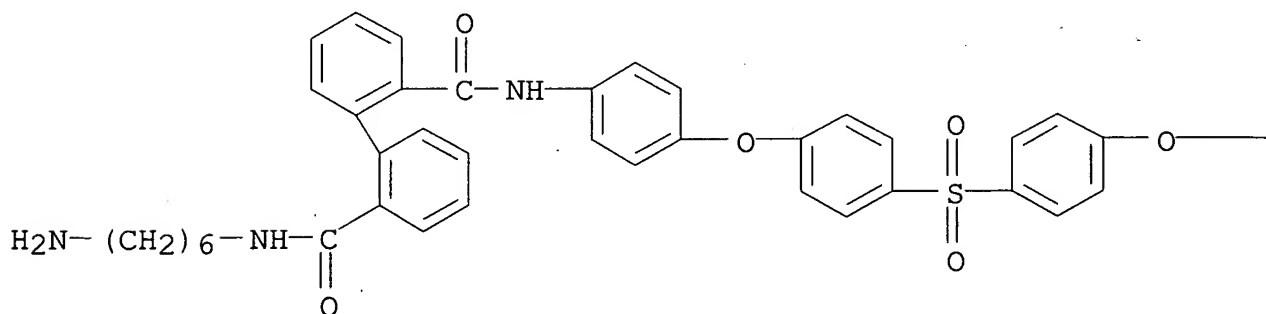


RN 107810-58-2 ZCA  
CN [1,1'-Biphenyl]-2,2'-dicarboxamide, N,N''-[sulfonylbis(4,1-phenyleneoxy-4,1-phenylene)]bis[N'-(6-aminoheptyl)-, polymer with 6,6'-[sulfonylbis(4,1-phenyleneoxy-4,1-phenylene)]bis[5H-dibenz[c,e]azepine-5,7(6H)-dione] (9CI) (CA INDEX NAME)

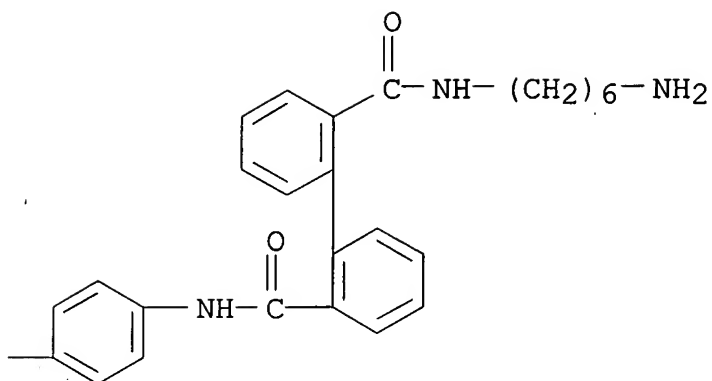
CM 1

CRN 107810-57-1  
CMF C64 H64 N6 O8 S

PAGE 1-A



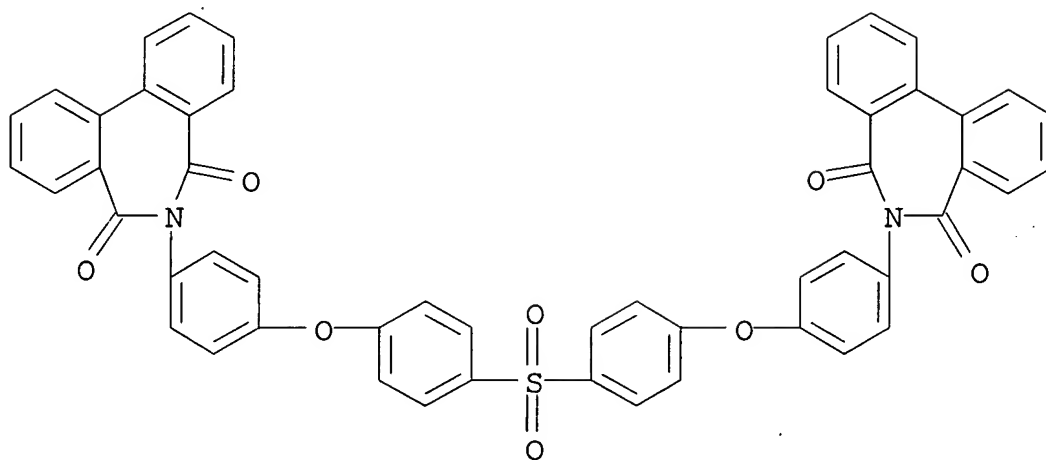
PAGE 1-B



CM 2

CRN 107810-56-0

CMF C52 H32 N2 O8 S



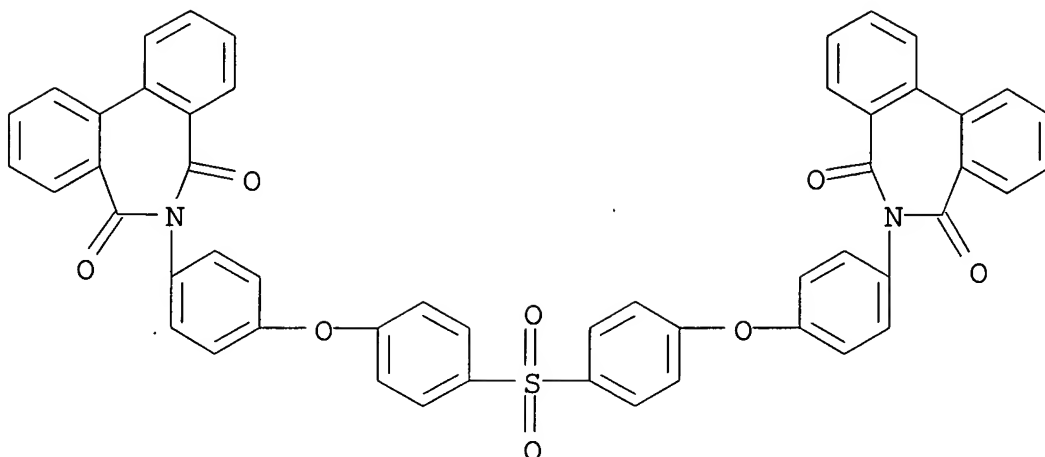
RN 107810-59-3 ZCA

CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6,6'-[sulfonylbis(4,1-phenyleneoxy-4,1-phenylene)]bis-, polymer with 4,4'-[sulfonylbis(4,1-phenyleneoxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 107810-56-0

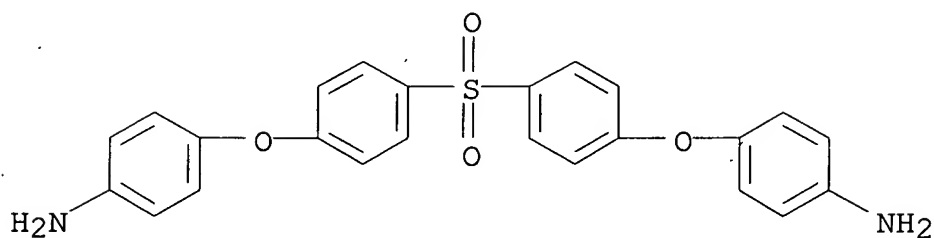
CMF C52 H32 N2 O8 S



CM 2

CRN 13080-89-2

CMF C24 H20 N2 O4 S



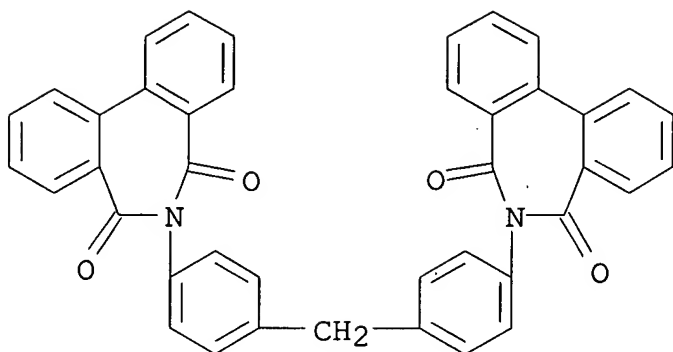
RN 107810-60-6 ZCA

CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6,6'-(methylenedi-4,1-phenylene)bis-, polymer with 1,2-ethanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 107810-51-5

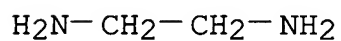
CMF C41 H26 N2 O4



CM 2

CRN 107-15-3

CMF C2 H8 N2



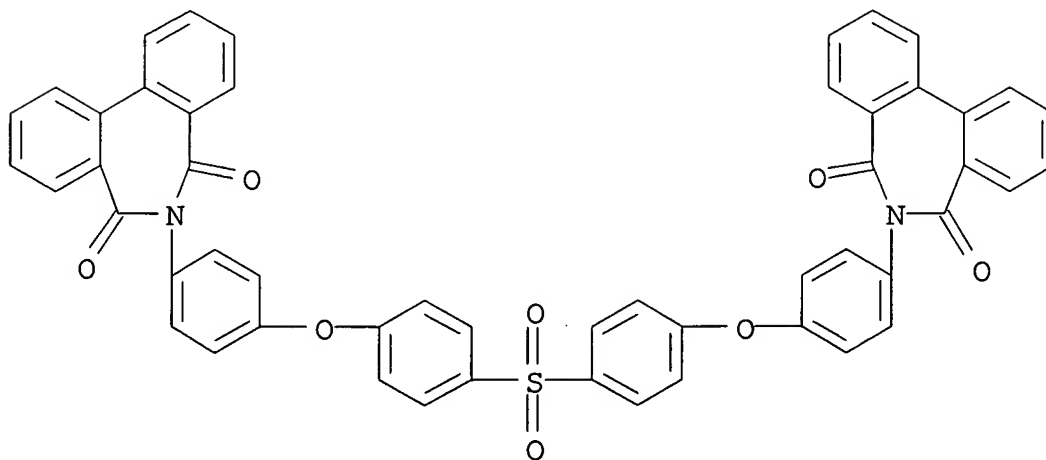
RN 107810-61-7 ZCA

CN 5H-Dibenz[*c,e*]azepine-5,7(6H)-dione, 6,6'-[sulfonylbis(4,1-phenyleneoxy-4,1-phenylene)]bis-, polymer with 1,2-ethanediamine (9CI) (CA INDEX NAME)

CM 1

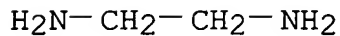
CRN 107810-56-0

CMF C52 H32 N2 O8 S



CM 2

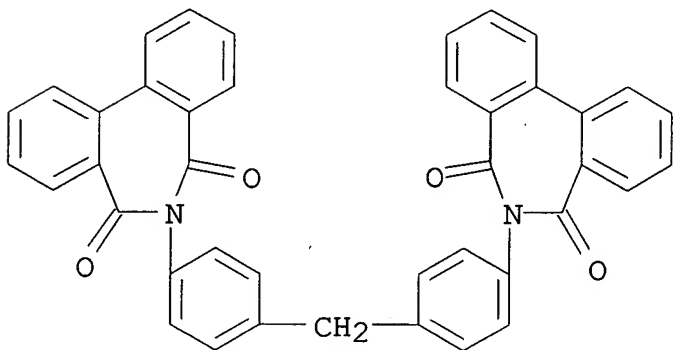
CRN 107-15-3  
CMF C2 H8 N2



RN 107871-02-3 ZCA  
CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6,6'-(methylenedi-4,1-phenylene)bis-, polymer with C,C,C-trimethyl-1,6-hexanediamine (9CI)  
(CA INDEX NAME)

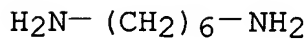
CM 1

CRN 107810-51-5  
CMF C41 H26 N2 O4



CM 2

CRN 25620-58-0  
CMF C9 H22 N2  
CCI IDS



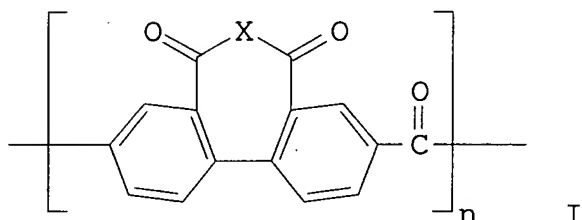
3 ( D1-Me )

IT 107810-52-6P 107810-53-7P 107810-54-8P

107810-55-9P 107810-58-2P 107810-59-3P  
 107810-60-6P 107810-61-7P 107871-02-3P  
 (manuf. of, for carbon fiber composites)

L10 ANSWER 21 OF 24 ZCA COPYRIGHT 2005 ACS on STN  
 103:124073 Polyimide products. Robinson, Joseph Gordon; Riemer, Pierce  
 William Foster (Coal Industry (Patents) Ltd., UK). Eur. Pat. Appl.  
 EP 142918 A2 19850529, 7 pp. DESIGNATED STATES: R: BE, CH, DE, FR,  
 IT, LI, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP  
 1984-306361 19840918. PRIORITY: GB 1983-30793 19831118.

GI



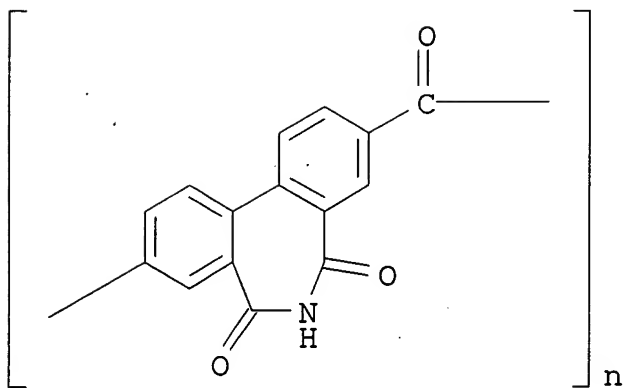
AB Imides I (X = NR; R = H, group inert to diamines; n = 2-20) are  
 useful in the prepn. of novel resins using polyfunctional reagents,  
 e.g. diepoxides (no data). Thus, stirring 4.5 g anhydride I (X = O;  
 n = 2) [98161-04-7] in 15 g DMSO with 4 g NH<sub>4</sub>OH (d. 0.88)  
 at 70.degree. for 4 h, adding 4 g NH<sub>4</sub>OH, and heating 4 h at  
 70.degree., then 1 h at 130.degree. and 5 mm Hg, gave oligoimide I  
 (X = NH; n = 2) [98161-05-8].

IT 98161-05-8P

(oligomeric, prepn. of)

RN 98161-05-8 ZCA

CN Poly[(6,7-dihydro-5,7-dioxo-5H-dibenz[c,e]azepine-3,9-diyl)carbonyl]  
 (9CI) (CA INDEX NAME)

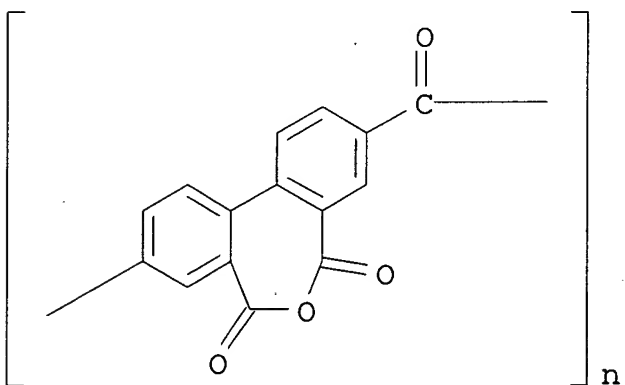


IT 98161-04-7

(oligomeric, reaction of, with ammonia)

RN 98161-04-7 ZCA

CN Poly[(5,7-dihydro-5,7-dioxodibenz[c,e]oxepin-3,9-diyl)carbonyl]  
(9CI) (CA INDEX NAME)



IT 98161-05-8P

(oligomeric, prepn. of)

IT 98161-04-7

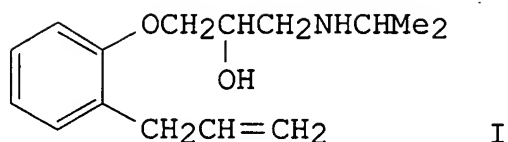
(oligomeric, reaction of, with ammonia)

L10 ANSWER 22 OF 24 ZCA COPYRIGHT 2005 ACS on STN

95:126239 Polymeric drugs by direct copolymerization: polymer of .beta.-adrenergic antagonist alprenolol and its binding to receptors and antibodies. Pitha, Josef; Zjawiony, Jordan; Lefkowitz, Robert J.; Caron, Marc G. (Gerontol. Res. Cent., Natl. Inst. Aging, Baltimore, MD, 21224, USA). Makromolekulare Chemie, 182(7), 1945-50 (English) 1981. CODEN: MACEAK. ISSN: 0025-116X.

GI





AB An acrylamide-alprenolol-HCl copolymer (acrylamide-I-HCl copolymer) [77539-51-6] was prepd. Incorporation of I into the copolymer decreased its binding to frog erythrocyte .beta.-adrenergic receptors 1000-fold but decreased its binding to antibodies specific for catecholamines and I-related drugs by only 3-fold. Incorporation of the drug into the polymer apparently results in steric strains, preventing approach of the I residues to sterically constrained binding sites on the receptors but allowing approach to accessible binding sites on the antibodies. Acrylamide-dihydroalprenolol-HCl copolymer [78884-69-2] and acrylamide-azapetine copolymer [78884-70-5] were also prepd., azapetine being an .alpha.-adrenergic antagonist which, like I, also contains an allyl group.

IT 78884-70-5P

(prepn. of)

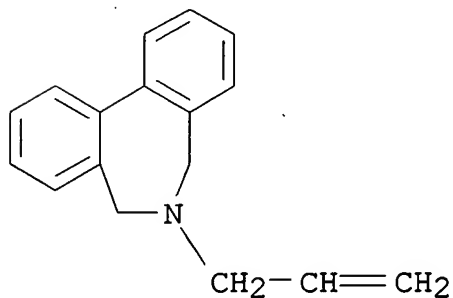
RN 78884-70-5 ZCA

CN 2-Propenamide, polymer with 6,7-dihydro-6-(2-propenyl)-5H-dibenz[c,e]azepine (9CI) (CA INDEX NAME)

CM 1

CRN 146-36-1

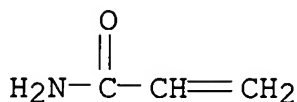
CMF C17 H17 N



CM 2

CRN 79-06-1

CMF C3 H5 N O



IT 78884-70-5P  
(prepn. of)

L10 ANSWER 23 OF 24 ZCA COPYRIGHT 2005 ACS on STN  
81:19279 Polymeric binders for electrophotographic layers. Kimura,  
Tadasu; Uchiyama, Tomozo; Kochi, Thuneo (Mitsubishi Rayon Co.,  
Ltd.). Ger. Offen. DE 2239276 19740221, 42 pp. (German). CODEN:  
GWXXBX. APPLICATION: DE 1972-2239276 19720809.

AB As moisture-insensitive binders for ZnO or CdS of superior elec.  
properties polymers of mol. wt. 500-50,000 are described which  
contain arom. dicarboxylic or maleic acid residues. Thus,  
2-hydroxyethyl methacrylate was condensed with phthalic anhydride to  
a monomer which was polymd. in PhMe soln. with styrene and Bu  
methacrylate by gradual addn. of azobisisobutyro-nitrile at  
80.degree. to a product having a mol. wt. of 12,000.  
Its image-forming properties as binder for ZnO were further improved  
by a small amt. of phthalic anhydride.

IT 52848-18-7  
(binder, for electrophotog. photoconductors)

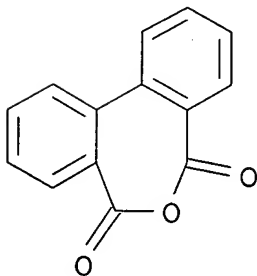
RN 52848-18-7 ZCA

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with  
dibenz[c,e]oxepin-5,7-dione, 2-hydroxyethyl 2-methyl-2-propenoate  
and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

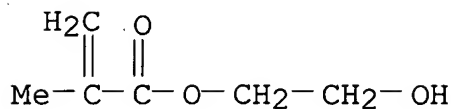
CRN 6050-13-1

CMF C14 H8 O3



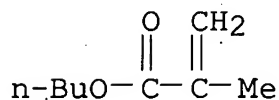
CM 2

CRN 868-77-9  
CMF C6 H10 O3



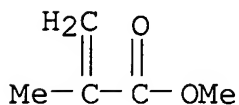
CM 3

CRN 97-88-1  
CMF C8 H14 O2



CM 4

CRN 80-62-6  
CMF C5 H8 O2



IT 52848-18-7  
(binder, for electrophotog. photoconductors)

L10 ANSWER 24 OF 24 ZCA COPYRIGHT 2005 ACS on STN  
72:91103 Polyester-polyethers. Case, Leslie C.; Case, Laura K. U.S. US  
3483169 19691206, 24 pp. (English). CODEN: USXXAM. APPLICATION:  
US 1967-665005 19670821.

GI For diagram(s), see printed CA Issue.

AB Fusible, sol., heat-incurable, thermoplastic, hydroxyl- or  
carboxyl-terminated polyester-polyethers were prepd. which had a  
narrower mol.-wt. distribution than condensation polymers, a high  
degree of functionality, and lower melt viscosities than those of  
polycondensates of the same no.-av. mol. wt. The copolymers were  
prepd. by reacting a cyclic acid anhydride, a cyclic monoether, and  
a starter compd. having hydroxyl, carboxyl, or SH groups at elevated  
temp. and pressure in the absence of strongly basic catalysts. The  
new copolymers are useful as polymeric plasticizers, in detergent

formulations, and in the prepn. of low-d. polyurethane foams, urethane coatings and elastomers, and unsatd. laminating and casting resins. Thus, a mixt. of phthalic anhydride 52.8, propylene oxide (I) 61.9, and glycerol 2.9 g was heated 30 min at 115.degree., 170 min at 121.degree., 35 min at 149.degree., and 100 min at 176.degree. to give little unreacted I and the very viscous, but not glassy, colorless II with acid no. 2.5, theoretical av. mol. wt. 3720, d.p. 46.1, 15.4 monomer units/chain end, and polymer functionality 3. Preferred cyclic anhydrides included 1,4,5,6,7,7-hexachlorobicyclo[2.2.1]hept - 5-ene-2,3-dicarboxylic acid anhydride, succinic anhydride, and maleic anhydride; preferred cyclic ethers included ethylene oxide, epichlorohydrin, and 1,2-butylene oxide; and preferred starter compds. included dextrose, .alpha.-Me glucoside, solubilized starches, dextrans, and lauryl mercaptan.

IT 26352-85-2P

(prepn. of)

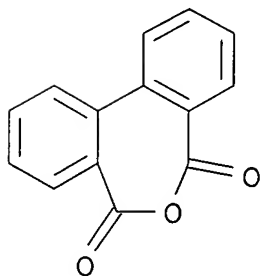
RN 26352-85-2 ZCA

CN Diphenic anhydride, polymer with glycerol and propylene oxide (8CI)  
(CA INDEX NAME)

CM 1

CRN 6050-13-1

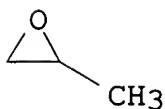
CMF C14 H8 O3



CM 2

CRN 75-56-9

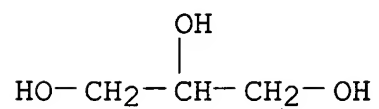
CMF C3 H6 O



CM 3

CRN 56-81-5

CMF C3 H8 O3



IT 26352-85-2P  
(prepn. of)